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1 agggagaggc agtgaccatg aaggctgtgc tgcctgccc gtgatggca  
51 ggctggccc tgcagccagg cactgcccctg ctgtgctact cctgcaaagc  
101 ccaggtgagc aacgaggact gccctgcaggt ggagaactgc acccagctgg  
151 gggagcagtg ctggaccgcz cgcaiccgcg cagttggcct cctgaccgtc  
201 atcagcaaaag gctgcagctt gaactgcgtg gatgactcac aggactacta  
251 cgtgggcaag aagaacatca cgtgctgtga caccgacttg tgcaacgcca  
301 gcgggggcca tgccttcag ccggctgccc ccattctgc gctgtccct  
351 gcactcggcc tgcctgctctg gggaccgggc cagctatagg ctctgggggg  
401 ccccgctgca gccacactg ggtgtggtgc ccaggcctt tgtgccactc  
451 ctacagaac ctggcccagt gggagcctgt cctggttcct gaggcacatc  
501 ctaacgcaag ttgaccatg tatgtttgca cccctttcc ccnaaccctg  
551 accttccat gggcctttc caggattccn accnggcaga tcagttag  
601 tganacanat ccgctgcag atggccctc caacnnttn tgttgnrt  
651 tccatggccc agcatttcc accttaacc ctgtgtcag gcacttnc  
701 ccccaggaag cctccctgc ccacccan tatgaatga gccaggttg  
751 gtccgtggtg tccccgcac ccagcagggg acaggcactc aggagggccc  
801 agtaaaaggc gagatgaagt ggactgagta gaactggagg acagagttg  
851 acgtgagtc ctgggagtt ccagagatgg ggcctggagg cctggaggaa  
901 ggggcccaggc ctacattg tggggtccc gaatggcagc ctgagcaccg  
951 cgtaggccct taataaacac ctgtggata agccaaataa aataataa

**FIGURE 1A**

MRALLALLMAGLALQPGTALLCYSCKAQVSXEDCLQV  
EACTQLGEQCWTARIRAVGLLTVISKGCSLNCVDDS  
QDYVVGKKNITCCDIDLNASGAHALQPAAAILALLPAL  
GILLWGPQQL

104-220-624656

FIGURE 1B

1  
1  
61  
121  
181  
241  
301  
361  
421

ATGAAGACAGT TTTT TATCCTGCTGGCCACCTACTTAGCCCTGCATCCAGGTGCTGCT  
TACTTCTGTCAAAAAAATAGGACGACCGTGGATGAATCGGGACGTAGGTCCACGACGA  
M K T V F F I L L A T Y L A L H P G A A  
CTGCAGTGCTATTTCATGCACAGCACAGATGAACAACAGAGACTGTCTGAATGTACAGAAC  
GACGTCACGATAAGTACGTGTCGTGTCTACTTGTGTCTCTGACAGACTTACATGTCTTG  
L Q C Y S C T A Q M N N R D C L N V Q N  
TGCAGCCTGGACCAGCACAGTTGCTTTACATCGCGCATCCGGGCCATTGGACTCGTGACA  
ACGTCGGACCTGGTCTGTCAACGAAATGTAGCGCGTAGGCCCGGTAACCTGAGCACTGT  
C S L D Q H S C F T S R I R A I G L V T  
GTTATCAGTAAGGGCTGCAGCTCACAGTGTGAGGATGACTCGGAGAACTACTATTTGGGC  
CAATAGTCATTCCCAGCTCGAGTGTCACTCTCTACTGAGCCTCTTGATGATAAACCCG  
V I S K G C S S Q C E D D S E N Y Y L G  
AAGAAGAACATCACGTGCTGCTACTCTGACCTGTGCAATGTCAACGGGGCCACACCCCTG  
TTCTTCTTG TAGTGACGACGATGAGACTGGACACGTTACAGTTGCCCGGGTGTGGGAC  
K K N I T C C Y S D L C N V N G A H T L  
AAGCCACCCACCCCTGGGGCTGCTGACCGTGCTCTGCAGCCTGTTGCTGTGGGGCTCC  
TTCGGTGGGTGGTGGGACCCCGACGACTGGCAGGACGTCGGACAACGACACCCCGAGG  
K P P T T L G L L T V L C S L L L W G S  
AGCCGTCTGTAGGCTCTGGGAGAGCCTACCATAGCCCGATTGTGAAGGGATGAGCTGCAC  
TCGGCAGACATCCGAGACCCTCTCGGATGGTATCGGGCTAACACTTCCCTACTCGACGTG  
S R L  
TCCACCCACCCACACAGG  
AGGTGGGGTGGGGGTGTGTCC

60  
120  
180  
240  
300  
360  
420  
441

## FIGURE 2

407230 224656

1 M K I F P V T T A M L G V S R A S S NSCA-2  
1 M K A V L L A M L M A G F A L O P G T A nPSCA  
1 M K T V L S L L M A T Y M A L H P G A A mPSCA  
21 L M C F S C L N O K S N L Y C E K P T I  
21 L L C Y S C K A Q V S N S D C L Q V E N  
21 L Q C Y S C T A Q M N N R D C L N V Q N  
41 C S O O D N Y C V T V S A S A G I G N L  
41 C T O L G Z Q C M T A R I R A V G L L T  
41 C S L O Q H S C F T S R I R A I G L V T  
61 V T F G H S L S K T C S P A C P I P E G  
61 V - - - - I S K G C S L N C V D D S Q  
61 V - - - - I S K G C S S Q C E D D S E  
81 V N V G V A S M G I S C C Q S F L C N F  
76 D Y Y V G K K - N L T C C O T D L C N A  
76 N Y Y L G K K - N L T C C Y S D L C N V  
101 S A A D G G L R A S V T F G A G M L  
95 S G A B A L O P A A A T A L L P A F G  
95 N G A B T L K P P T T L G L L V L C S  
121 S L F P A L L R F G P  
115 L L L M G P G O L - -  
115 L L L M G S S R L - -

FIGURE 3

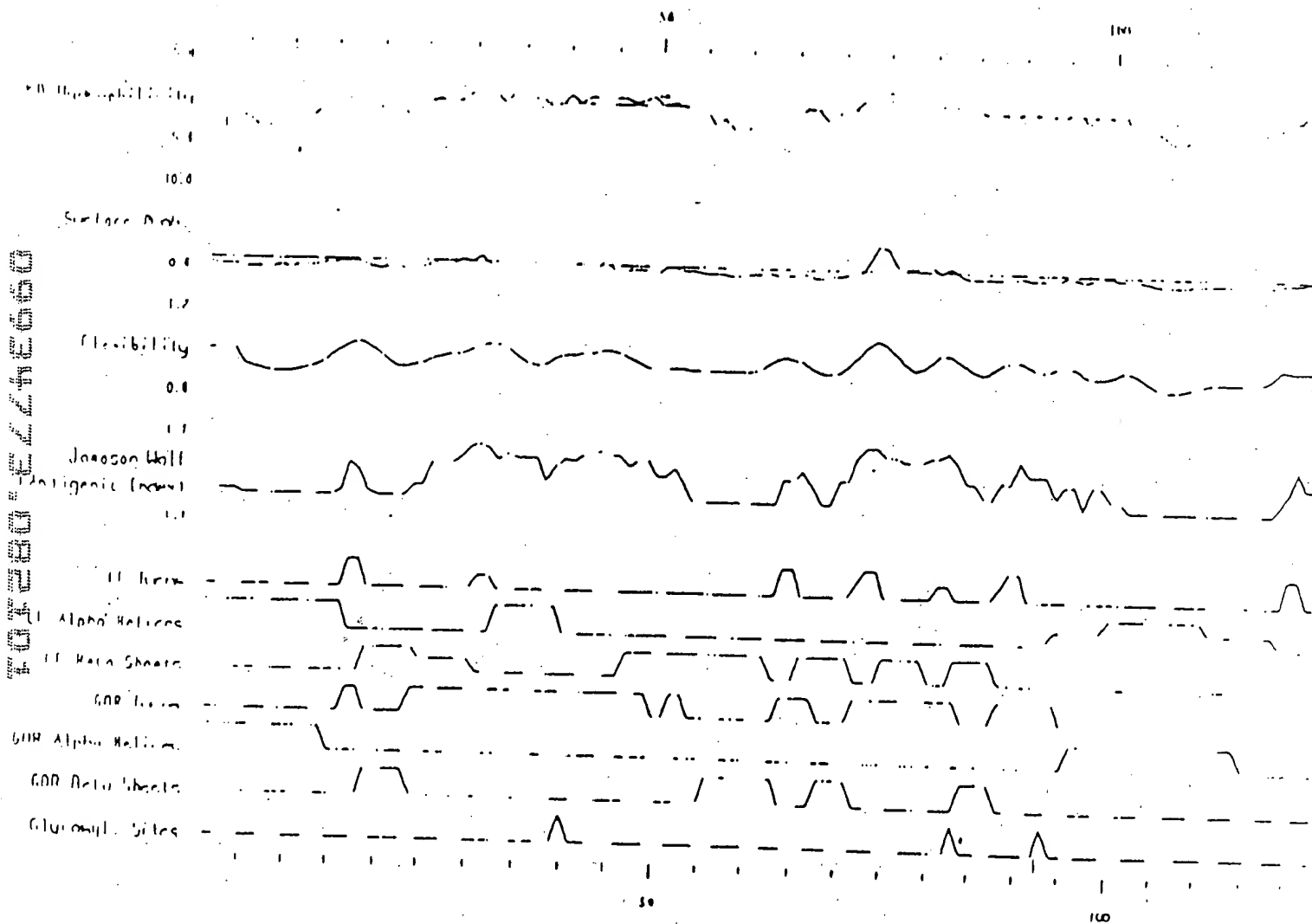


FIGURE 4

↑  
signal  
reference

✓ GPI signal

8.

Western Blot  
 Superoxide 800g M  
 Normal tissue  
 1hr exp

198  
 1:100

prostate (Humer)  
 prostate (Baker)  
 prostate (Gek)  
 Bladder (Humer)  
 Bladder (Gek)  
 Bladder (Rob)  
 Kidney (M404)  
 Kidney (W42)  
 Testis  
 Sm. Intest.

LA PC9

FIGURE 6



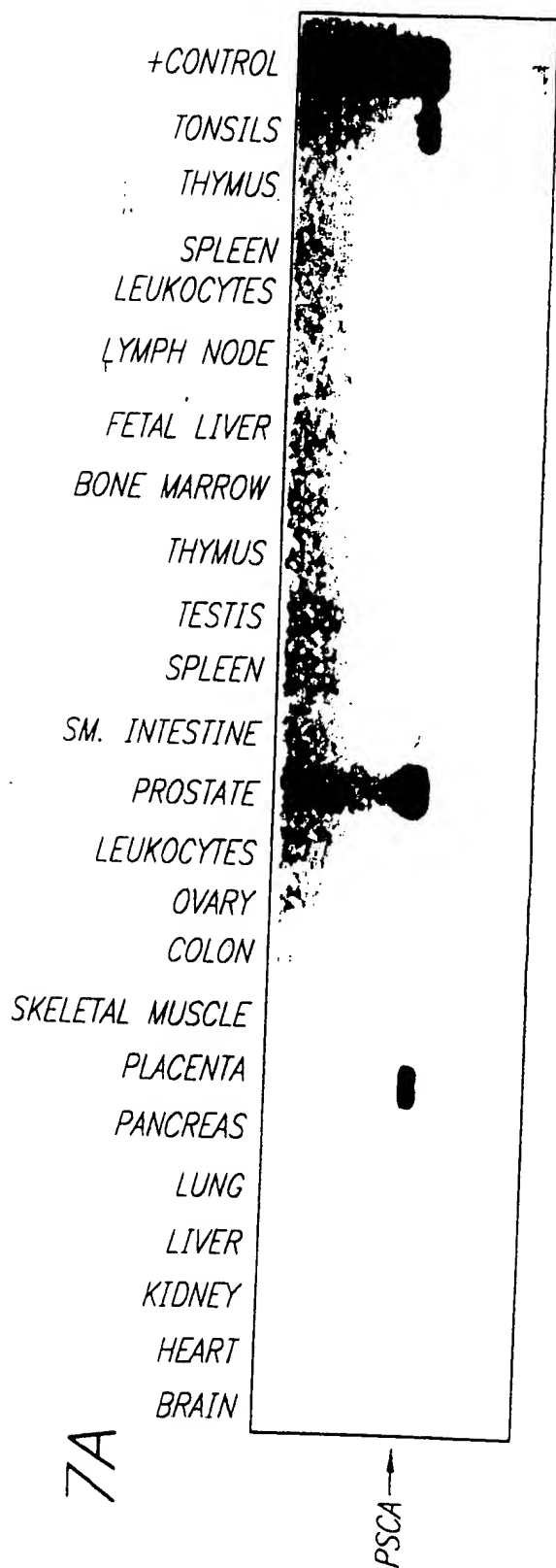


FIG. 7A

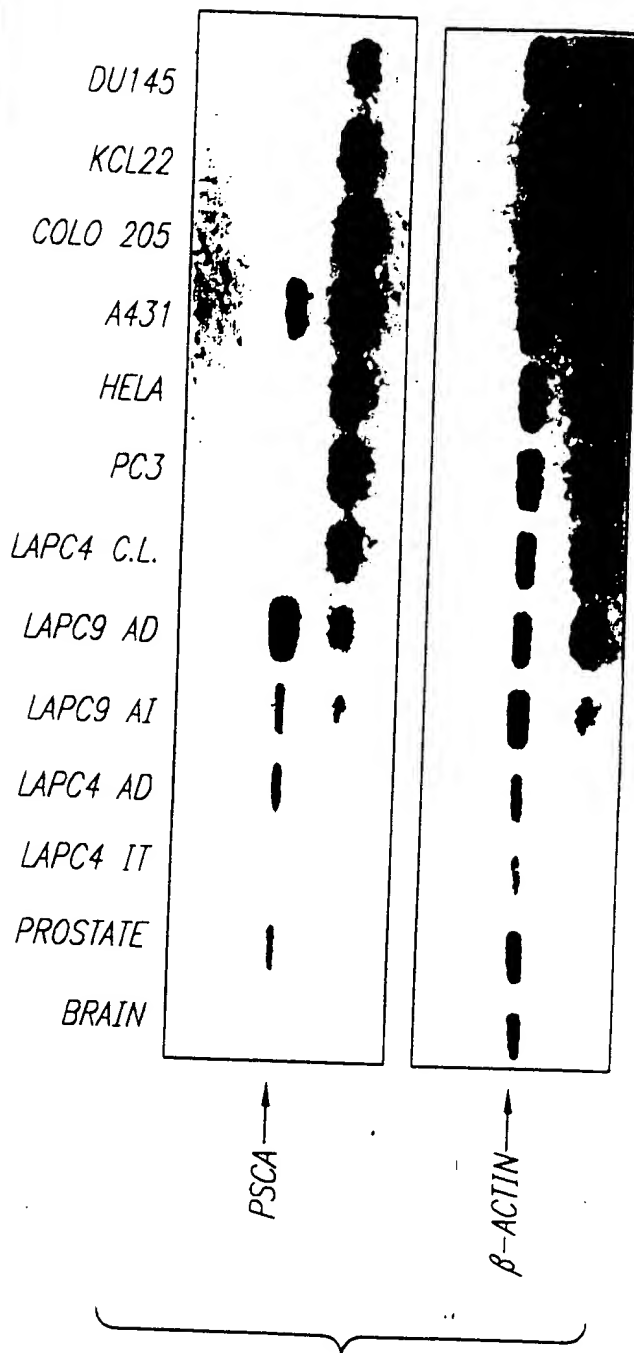




FIG. 7B

Legend:  untranslated region of PSCA  
 translated region of PSCA

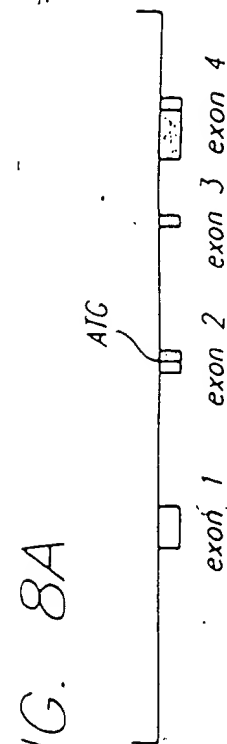


FIG. 8B

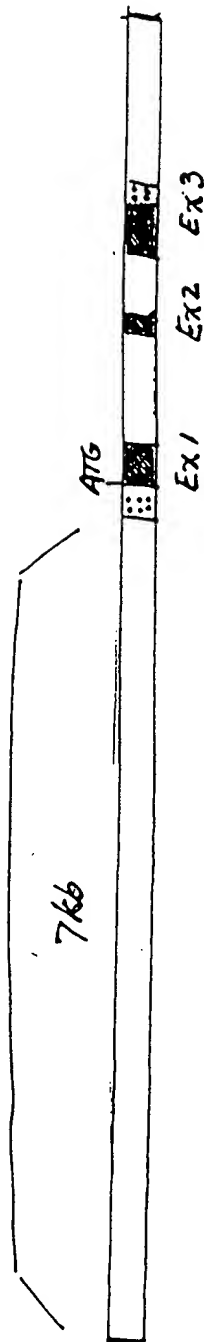
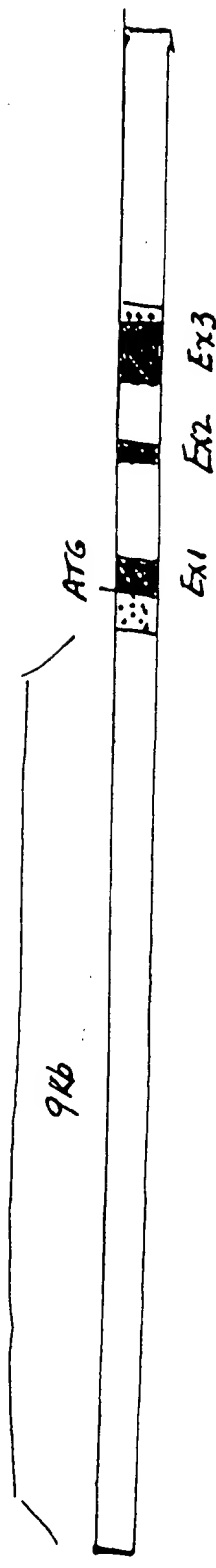


FIG. 8C



murine PSCA

FIGURE 8

human PSCA

PSCA / PSA Expression in Benign  
Prostate vs. Prostate Cancer Xenograft

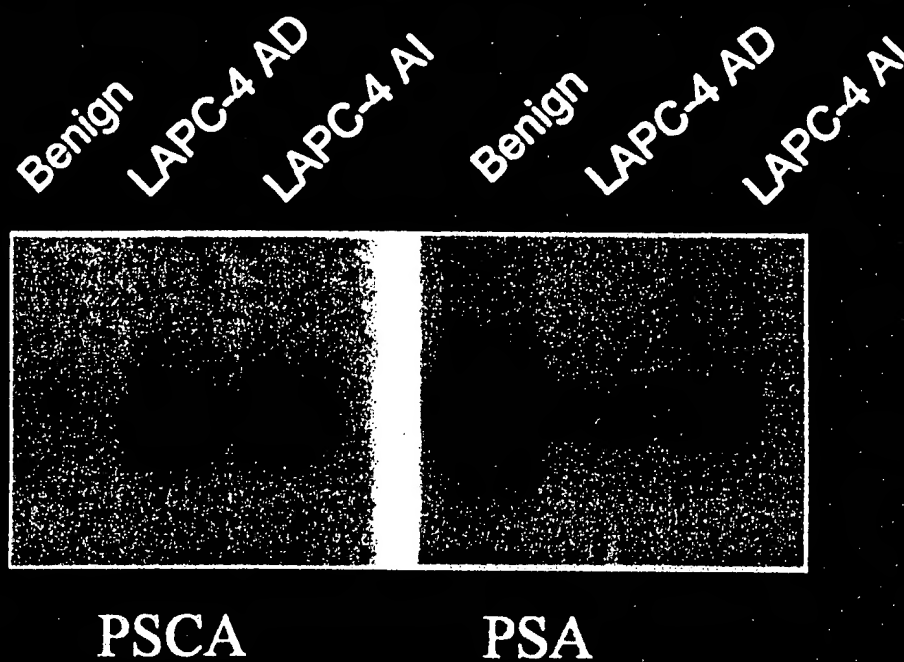


FIGURE 9A

01280 224650

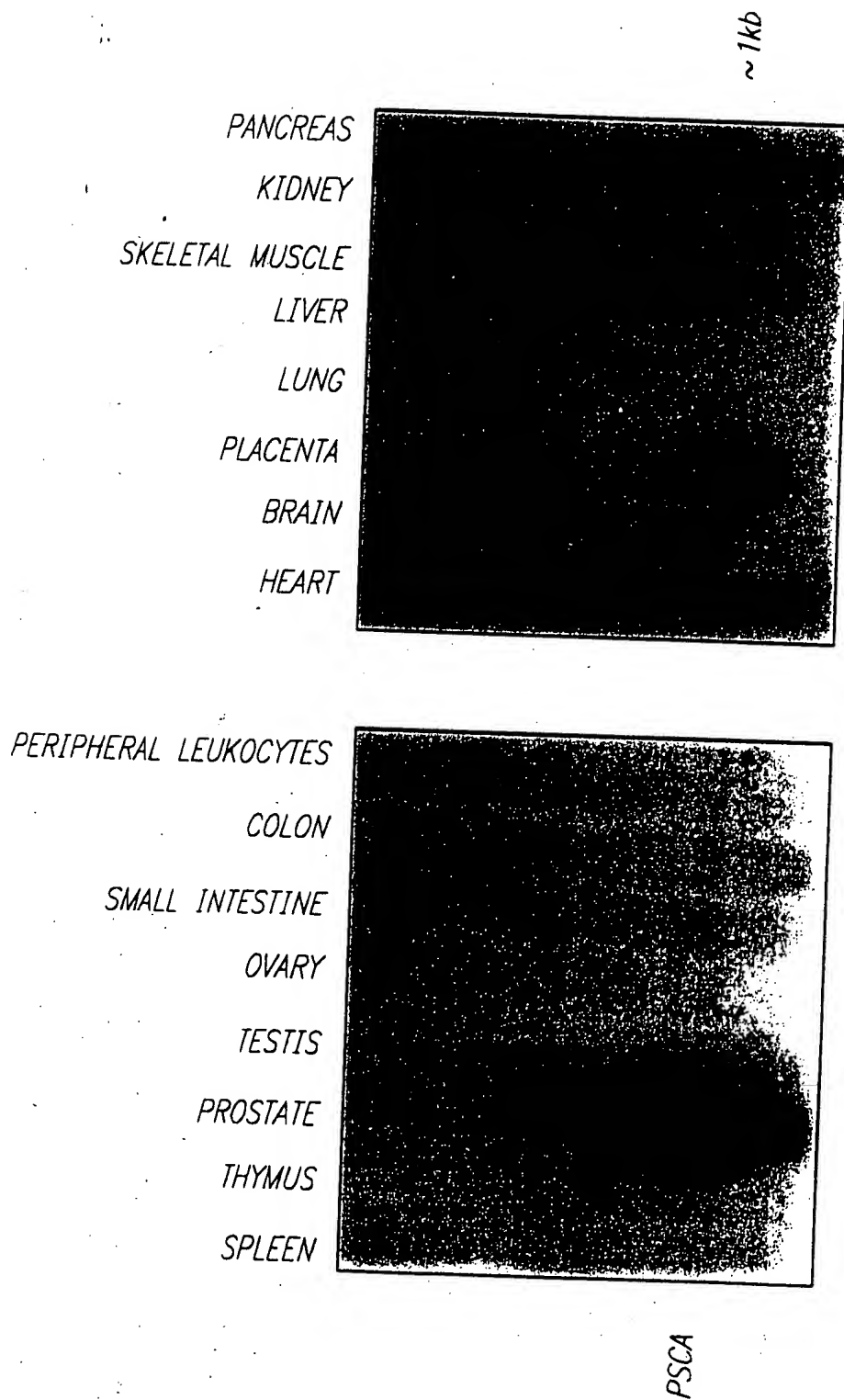


FIG. 9B

72 HRS

KCL22  
COLO 205  
A431  
HELA  
DU145  
PC3  
LNCAP  
LAPC4 C.L.  
LAPC3 AI  
LAPC9  
LAPC4 IT  
LAPC4 AI  
LAPC4 AD  
BPH

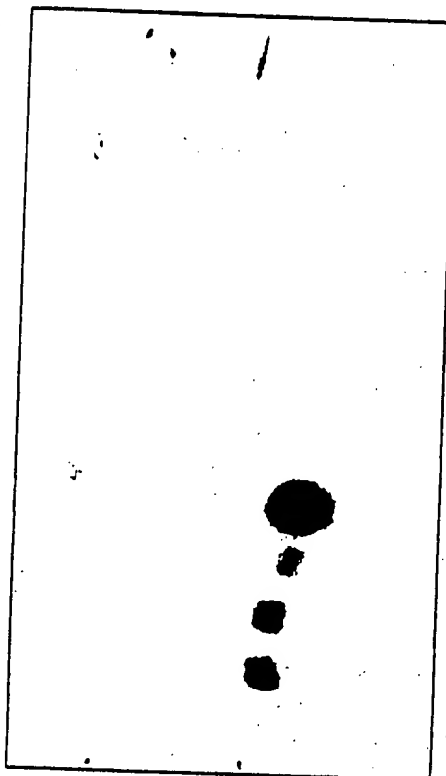
KCL22  
COLO 205  
A431  
HELA  
DU145  
PC3  
LNCAP  
LAPC4 C.L.  
LAPC3 AI  
LAPC9  
LAPC4 IT  
LAPC4 AI  
LAPC4 AD  
BPH



4 HRS

KCL22  
COLO 205  
A431  
HELA  
DU145  
PC3  
LNCAP  
LAPC4 C.L.  
LAPC3 AI  
LAPC9  
LAPC4 IT  
LAPC4 AI  
LAPC4 AD  
BPH

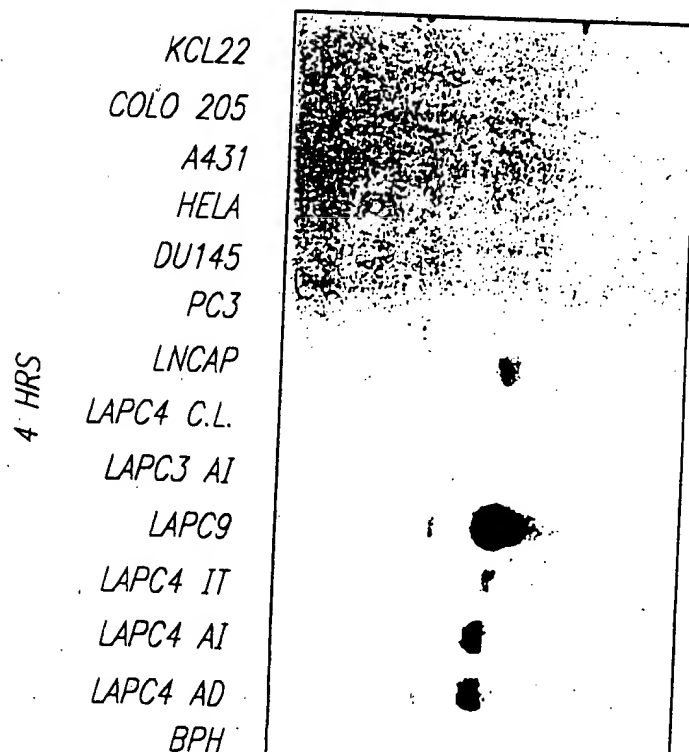
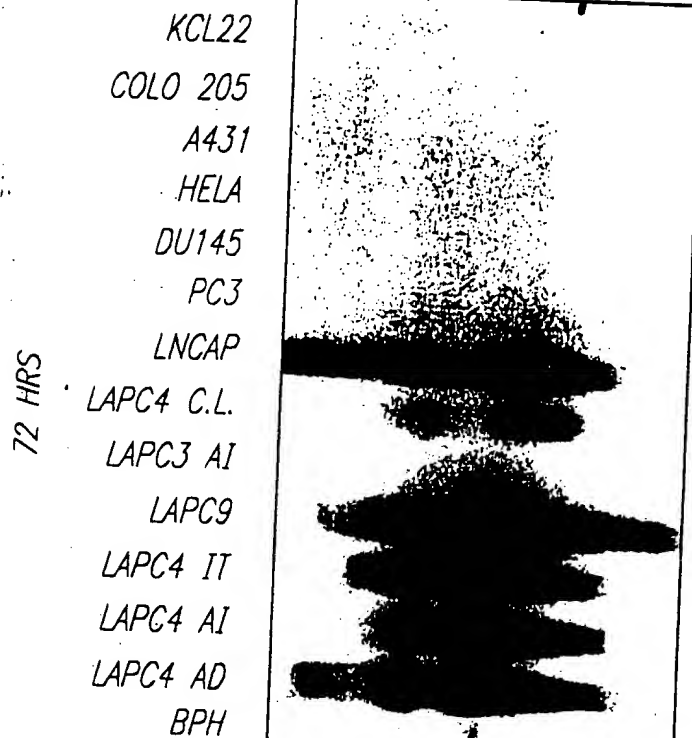
KCL22  
COLO 205  
A431  
HELA  
DU145  
PC3  
LNCAP  
LAPC4 C.L.  
LAPC3 AI  
LAPC9  
LAPC4 IT  
LAPC4 AI  
LAPC4 AD  
BPH



PSCA

FIG. 10-1

707250-224650



PSM

FIG. 10-2

601280 224666

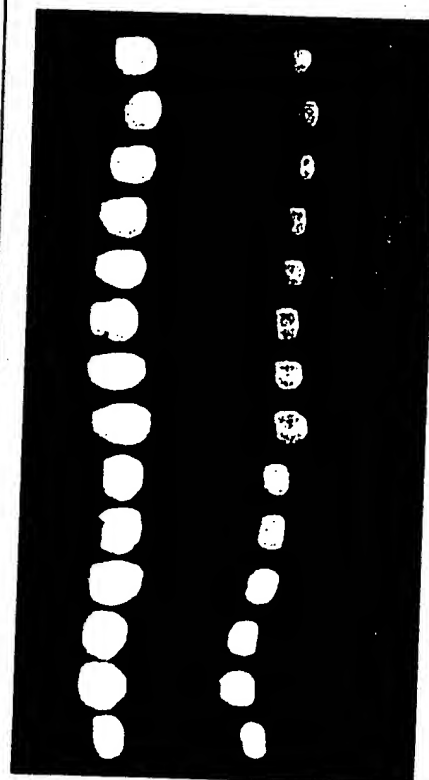
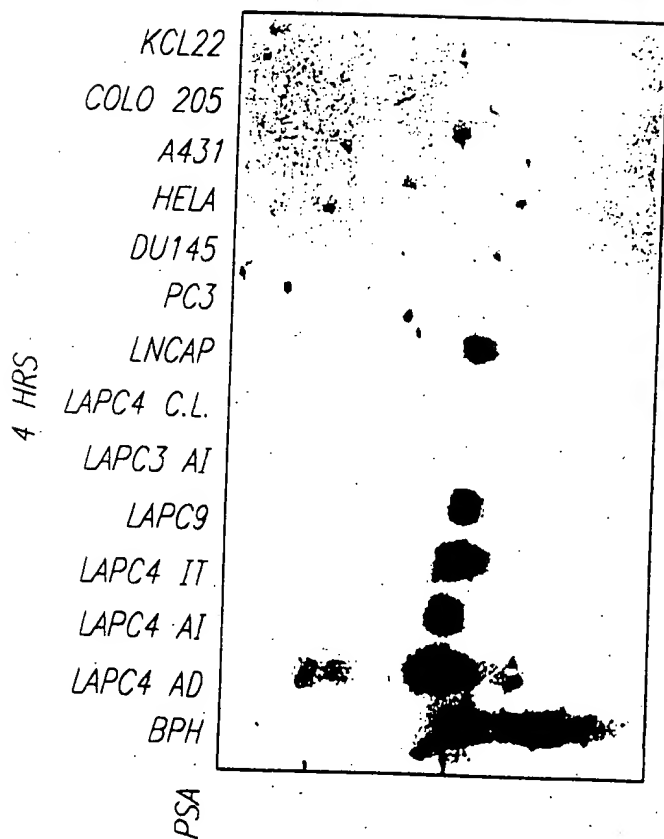
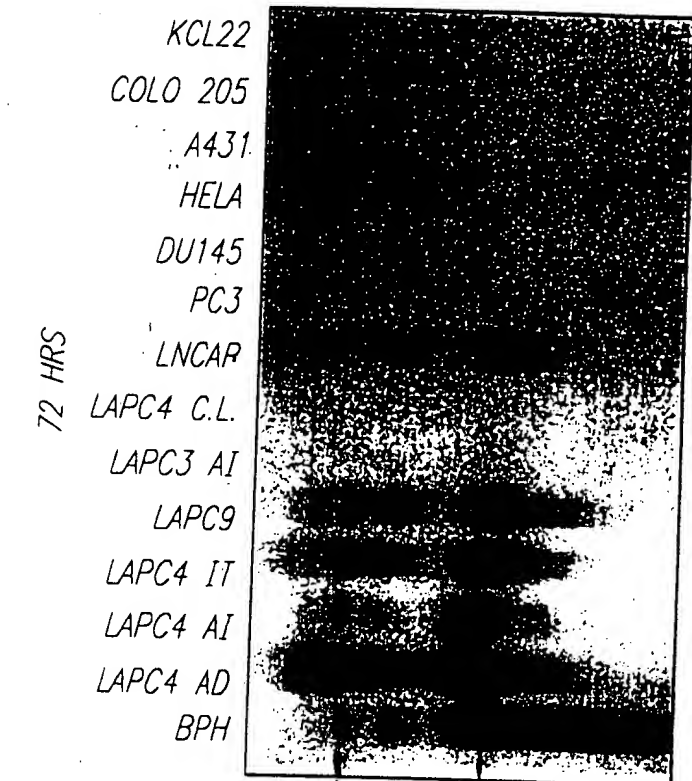


FIG. 10-3

[illegible]

FIG. 11B



00034773.082401

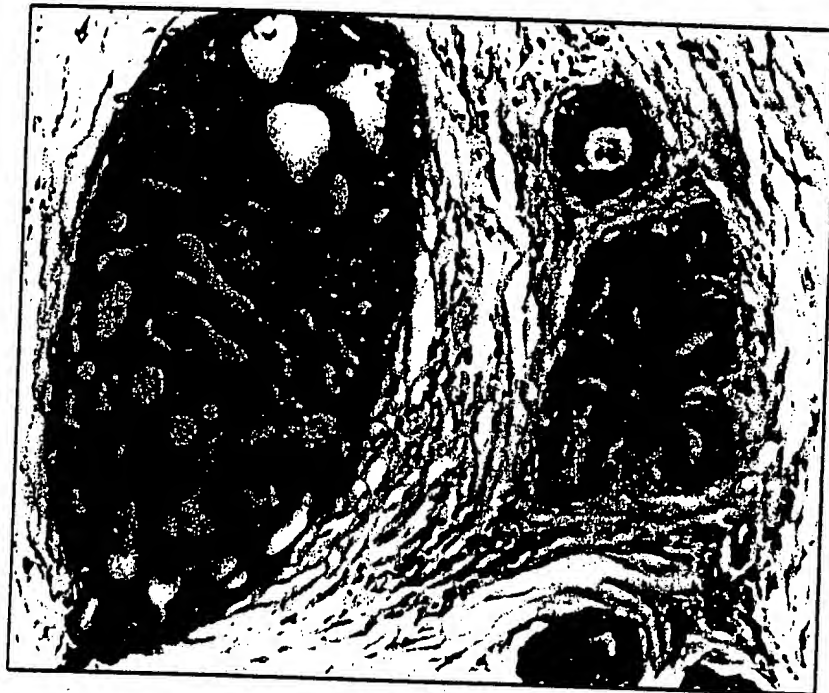
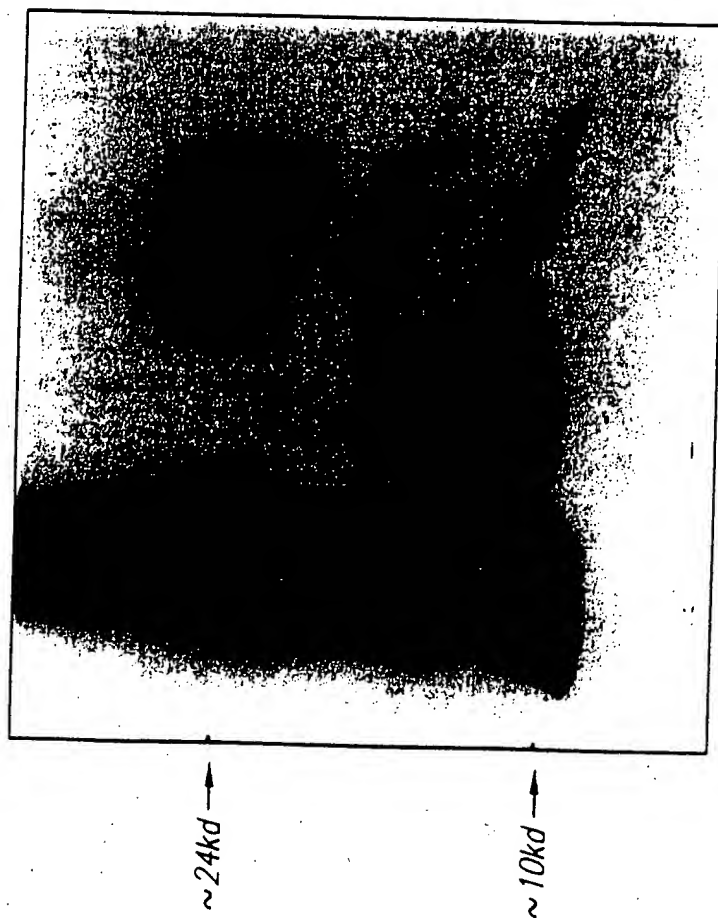


FIG. 11C

101-280 6242666

O GLYCOSIDASE  
N GLYCOSIDASE F  
CONTROL

FIG. 12A



SECRETED  
CELL ASSOCIATED

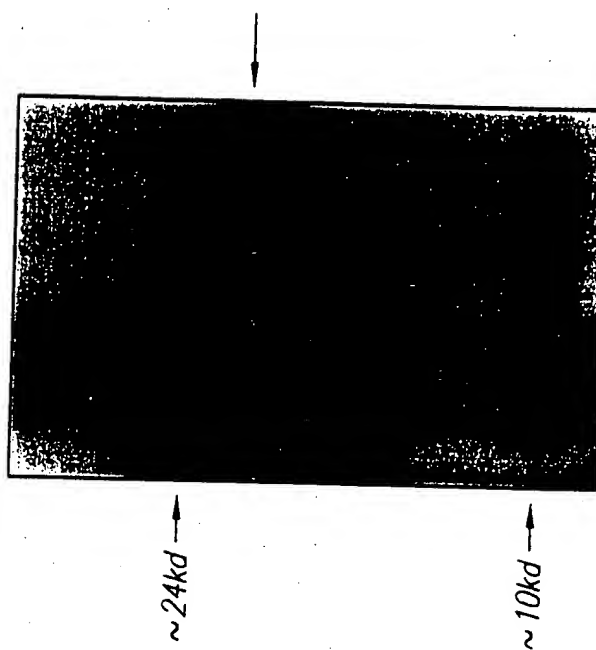


FIG. 12B

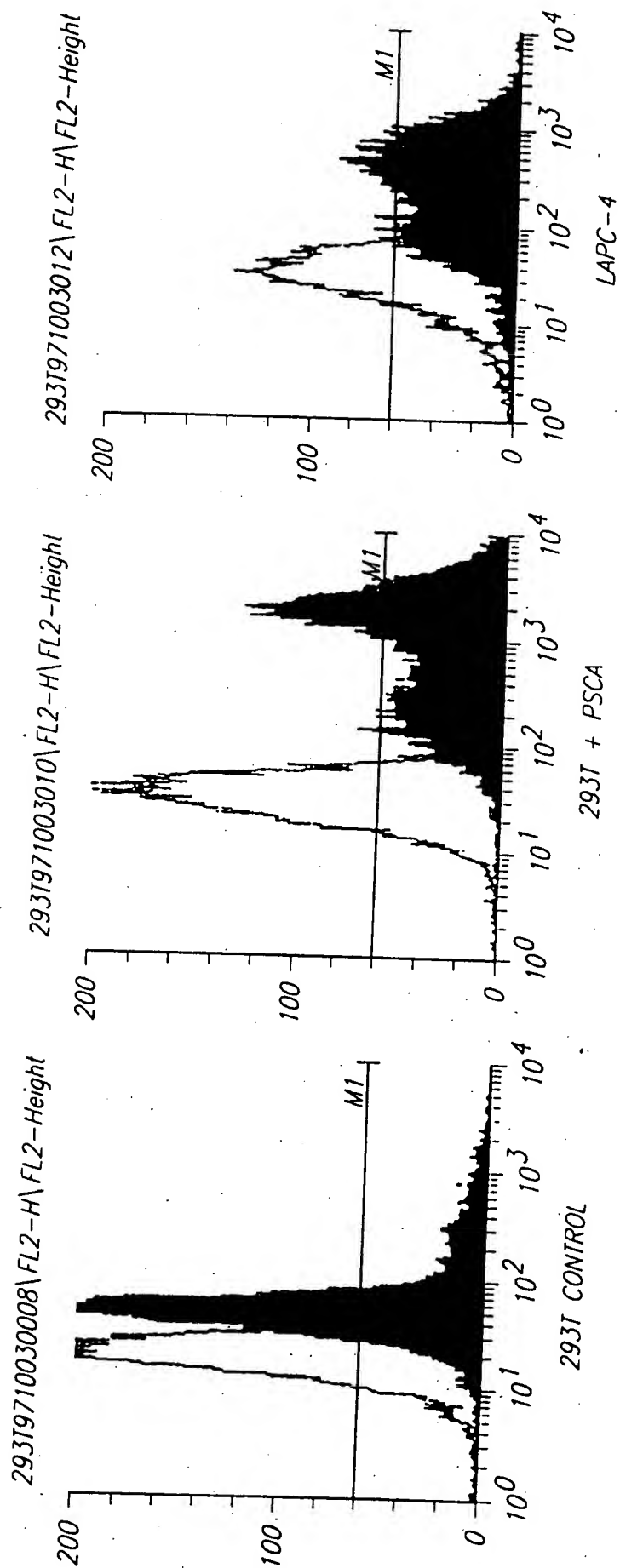
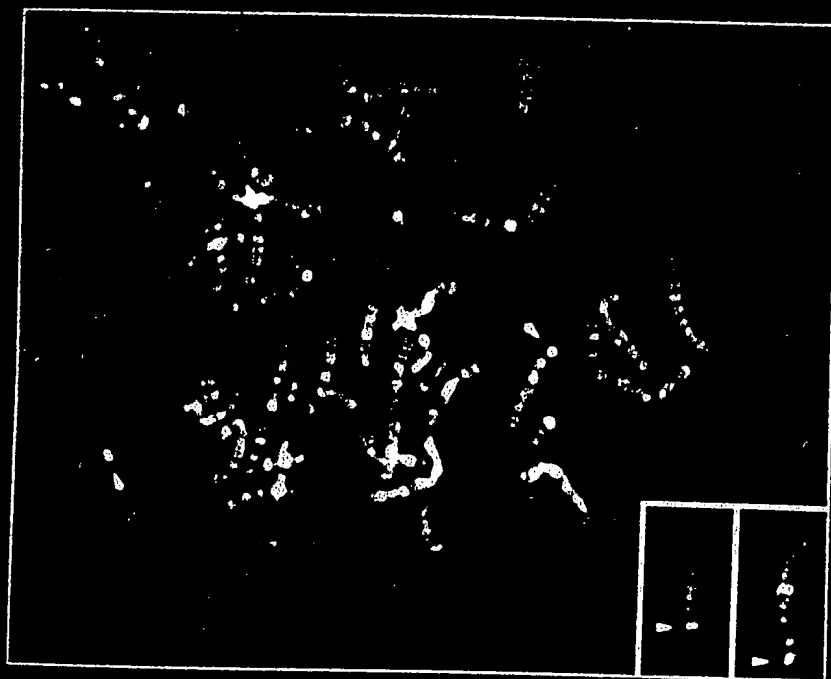


FIGURE 12C

# PSCA Maps to Chromosome 8q24.2



Fluorescent  
in Situ Hybridization  
Analysis of PSCA

FIGURE 13

101280 6.471660

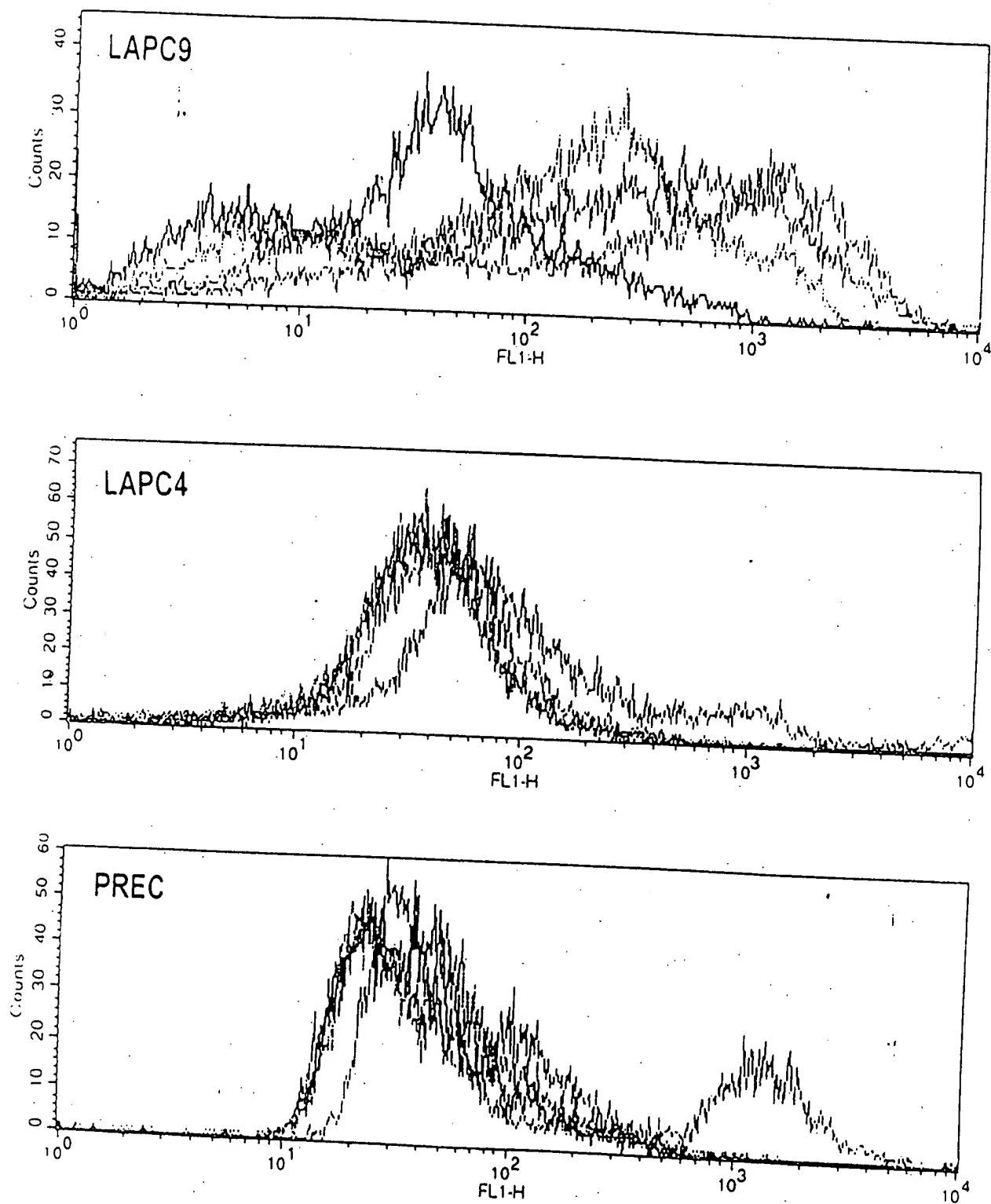


FIGURE 14

**A**

**Epitope map**

mAb	Isotype	FL (18-98)	N (2-50)	M (46-109)	C (85-123)
1G8	IgG1 k	2.039	0.007	0.628	0.000
2H9	IgG1 k	1.318	0.863	0.032	0.021
3C5	IgG2a k	2.893	1.965	0.016	0.005
3E6	IgG3 k	0.328	0.024	0.069	0.370
4A10	IgG2a k	2.039	1.315	0.000	0.014
2A2	IgG2a k	1.366	0.733	0.010	0.003
3G3	IgG2a k	2.805	1.731	0.004	0.000

**B**

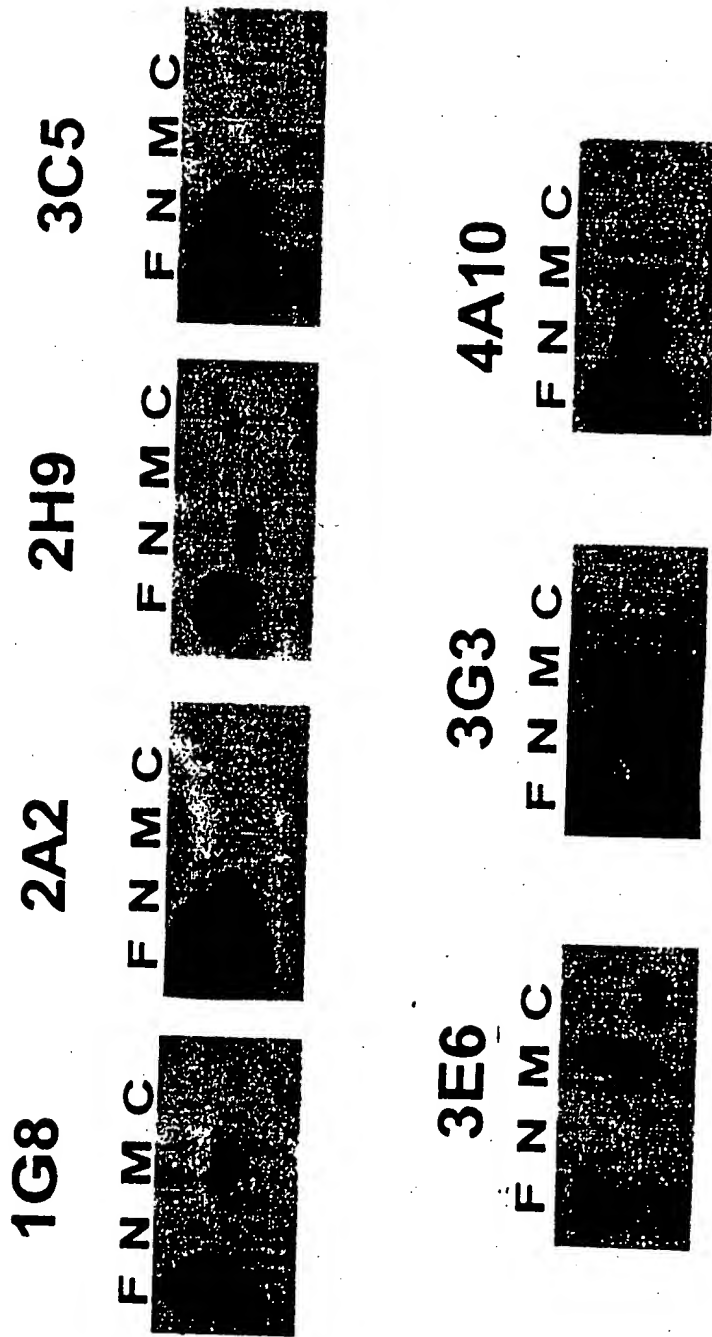


FIGURE 15

# Prostate Stem Cell Antigen (PSCA) is a GPI-anchored Protein

1	I	F	H	P	V	M	L	A	A	L	I	S	R	A	A		hSCA-2
1	A	N	E	L	A	T	M	A	G	L	A	L	P	G	I	A	hPSCA
1	A	N	E	L	A	T	M	A	G	L	A	L	P	G	I	A	mPSCA
21	M	G	E	S	C	L	N	Q	K	S	N	L	V	C	L	P	
21	L	L	G	C	C	K	A	Q	V	S	N	E	D	C	L	V	N*
21	L	L	G	C	C	K	A	Q	V	S	N	E	D	C	L	V	N*
41	C	S															
41	C	S															
41	C	S															
61	V																
61	V																
61	V																
81	V																
81	V																
81	V																
95	S	A	D	G	G	A	R	A	S	T	L	L	A	L	L		
95	S	A	D	G	G	A	R	A	S	T	L	L	A	L	L		
95	S	A	D	G	G	A	R	A	S	T	L	L	A	L	L		
101	S	A	D	G	G	A	R	A	S	T	L	L	A	L	L		
101	S	A	D	G	G	A	R	A	S	T	L	L	A	L	L		
101	S	A	D	G	G	A	R	A	S	T	L	L	A	L	L		
115	S	A	D	G	G	A	R	A	S	T	L	L	A	L	L		
115	S	A	D	G	G	A	R	A	S	T	L	L	A	L	L		
115	S	A	D	G	G	A	R	A	S	T	L	L	A	L	L		

(Reiter, R.E., et al., 1997. *PNAS*)

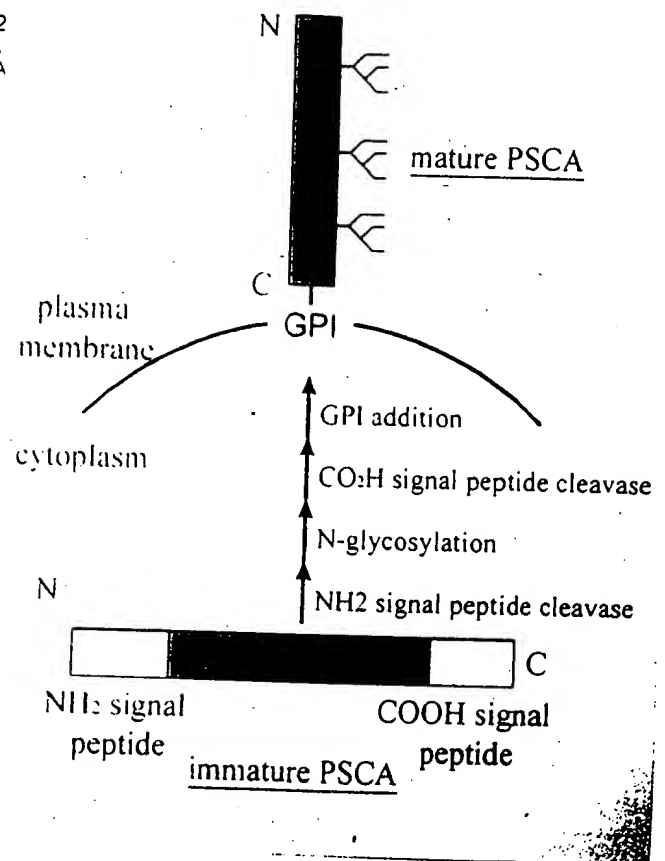
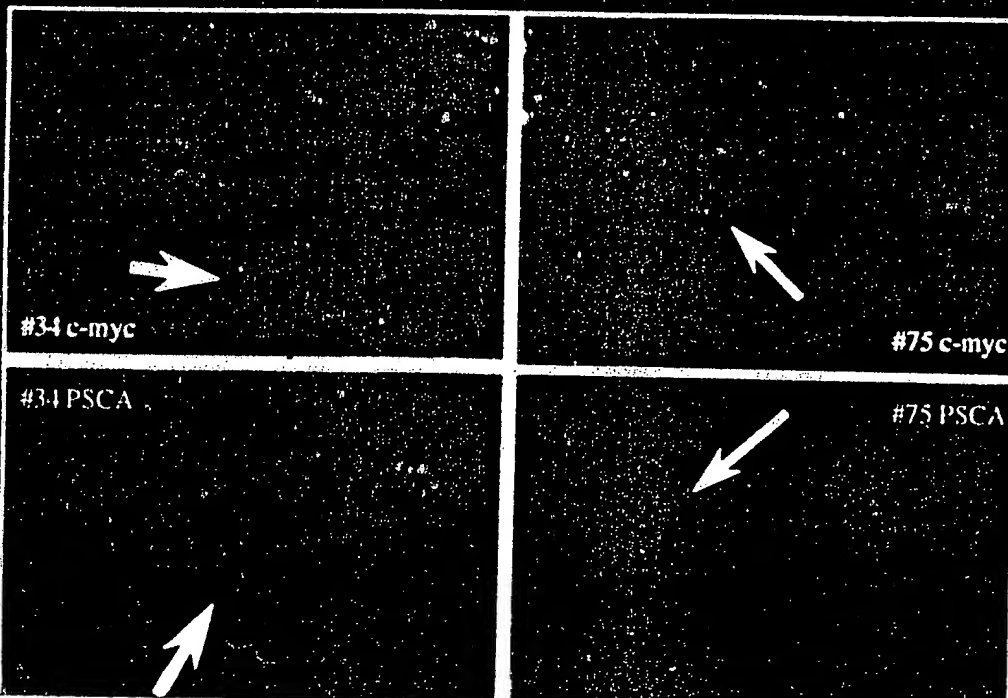


FIGURE 16

# FISH Analysis of PSCA and c-myc in Prostate Cancer

Gain Chromosome 8

Amplification



*R. Jenkins*

FIGURE 17



FIGURE 18

[illegible]

FIGURE 19

401280" E244E660



FIGURE 20

## PSCA Immunostaining of Primary Tumors

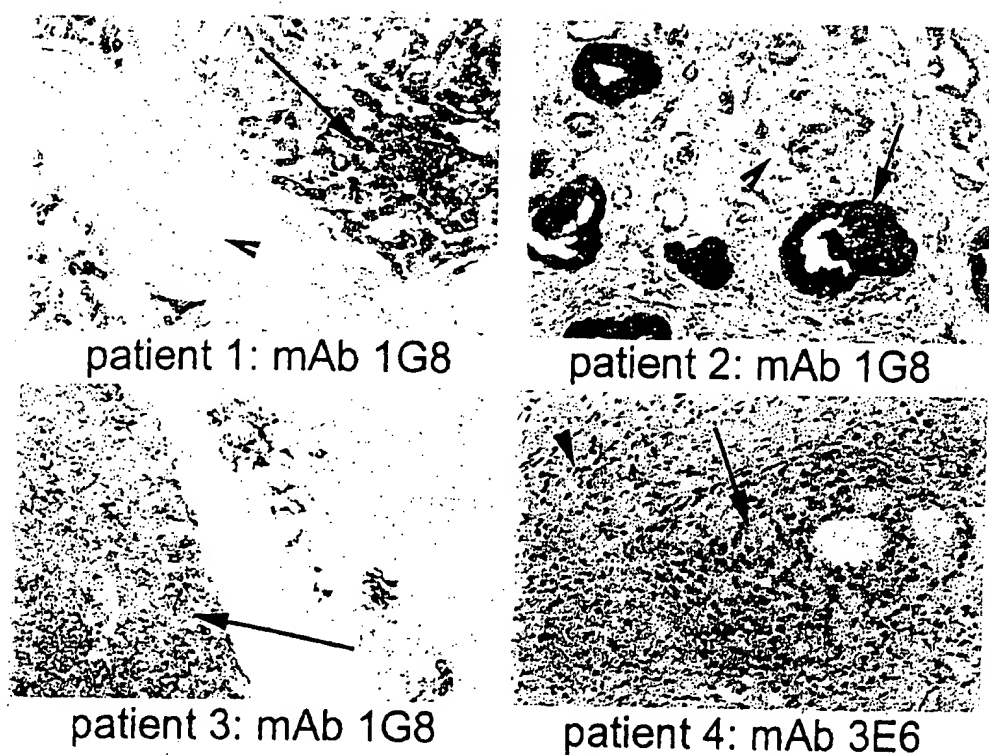


FIGURE 21

601280 22-11-60

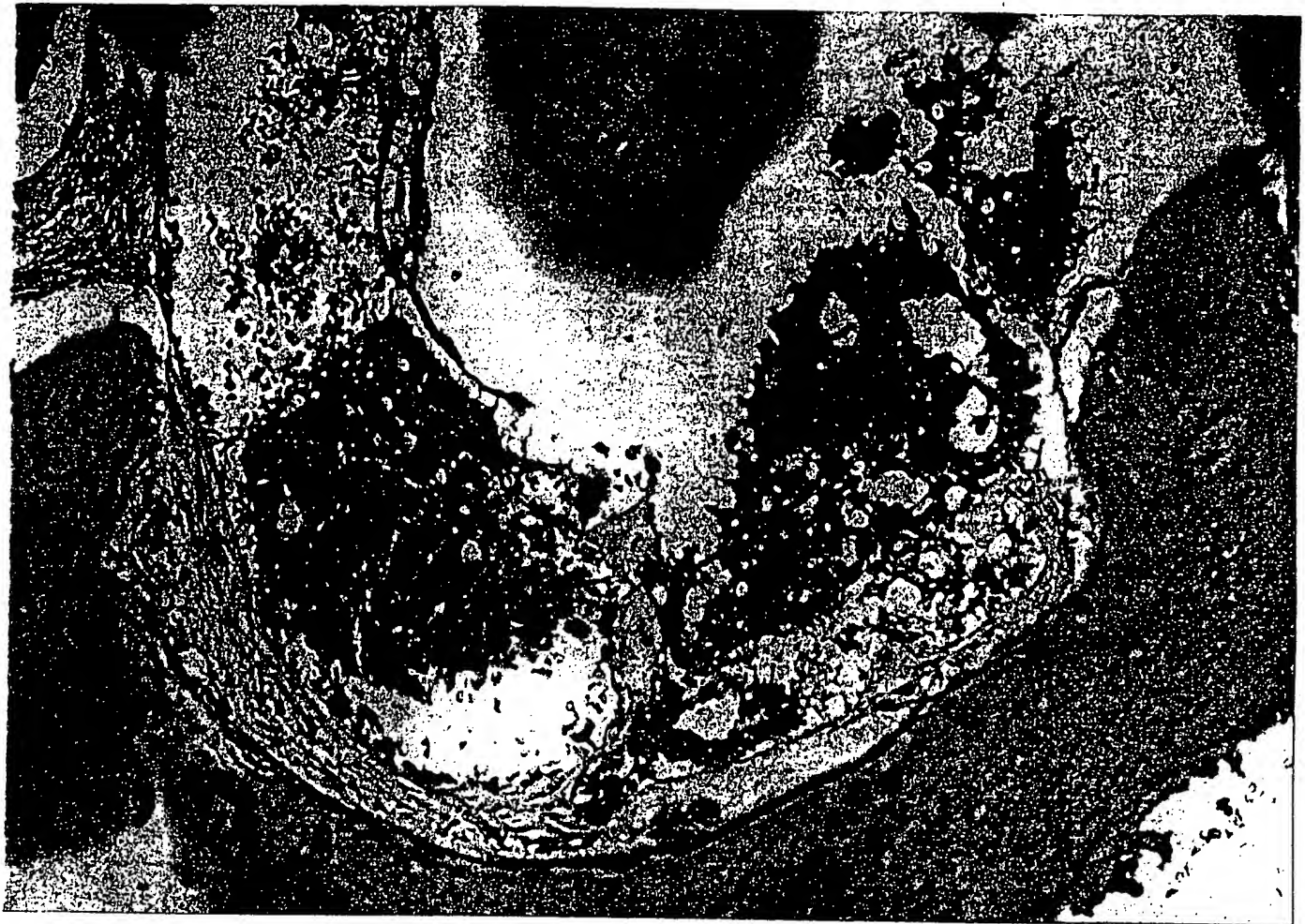


FIGURE 22

FIGURE 23

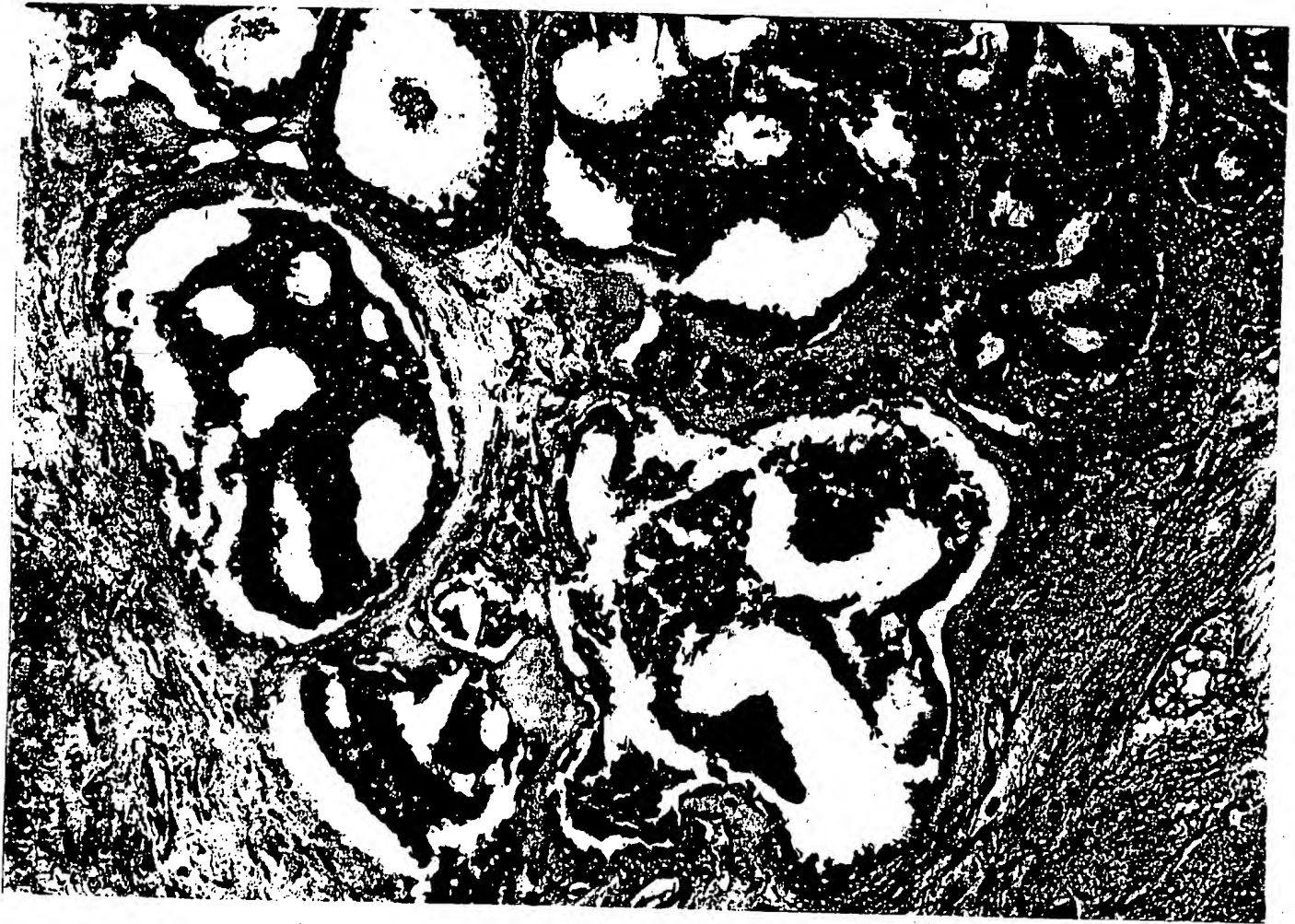


FIGURE 23

This is a high-contrast, black-and-white micrograph, likely a histological section of biological tissue. The image displays several dark, irregularly shaped structures that appear to be cross-sections of intestinal villi or crypts. These structures are clustered together, with some showing a central lighter area, possibly representing a lumen or a specific cellular component. The background is a light, textured surface, possibly representing the surrounding connective tissue or the surface of the tissue section. The overall appearance is grainy and high-contrast, characteristic of older microphotography.

FIGURE 24

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 97. 1000  
 98. 1000  
 99. 1000  
 100. 1000

Thank PSCA  
1/4/81

FIGURE 25



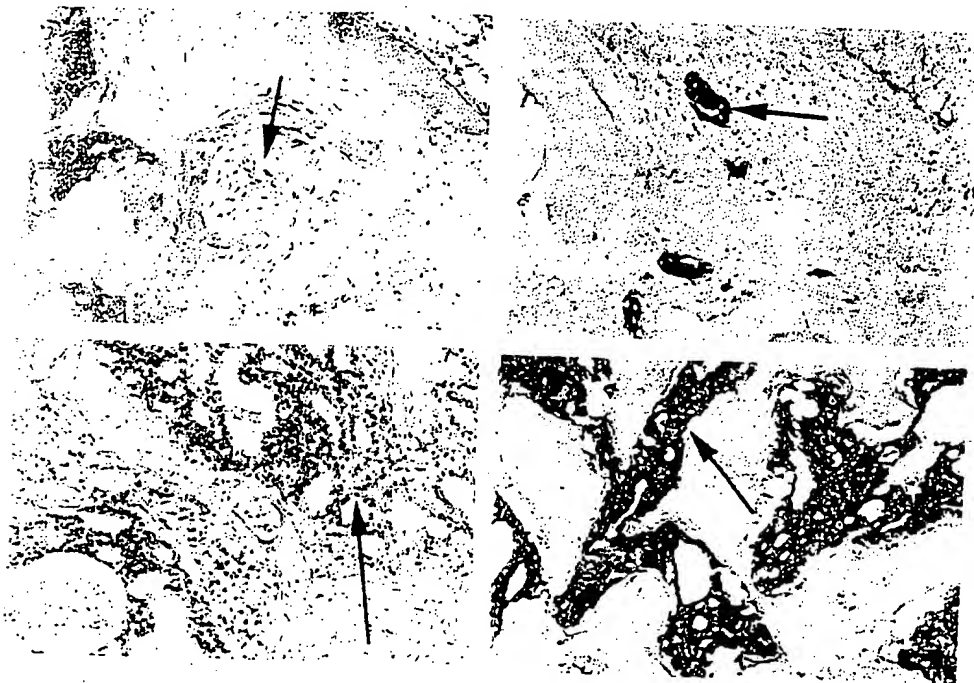
A high-contrast, black and white image showing a dark, textured surface. The surface is covered with numerous small, bright, circular spots, which appear to be reflections or highlights on a granular or crystalline material. The overall texture is rough and uneven, with the bright spots scattered across the dark background.

**FIGURE 26**

A high-contrast, black and white photograph of a biological specimen, possibly a cross-section of a plant or animal tissue. The specimen is irregularly shaped and shows internal structures, including what appears to be a central cavity or channel. The texture is highly detailed, with many small, dark, circular or oval features scattered throughout the lighter-colored tissue. The background is dark and grainy, suggesting a laboratory setting. The overall appearance is that of a microscopic or macroscopic view of a complex biological structure.

FIGURE 27

## PSCA Immunostaining of Bony Metastases



Patient 5: H and E  
and mAb 1G8

Patient 4: H and E  
and mAb 3E6

FIGURE 28

This is a high-contrast, black and white image, likely a scan of a textured surface such as a book cover or endpaper. The image is characterized by a dense, grainy texture with numerous small, light-colored specks and fibers against a dark background. A prominent, dark, irregular shape is visible in the center-right area, which could be a stain, a piece of tape, or a shadow. The overall appearance is that of a heavily worn or aged material.

**FIGURE 29**

FOI 280 227650

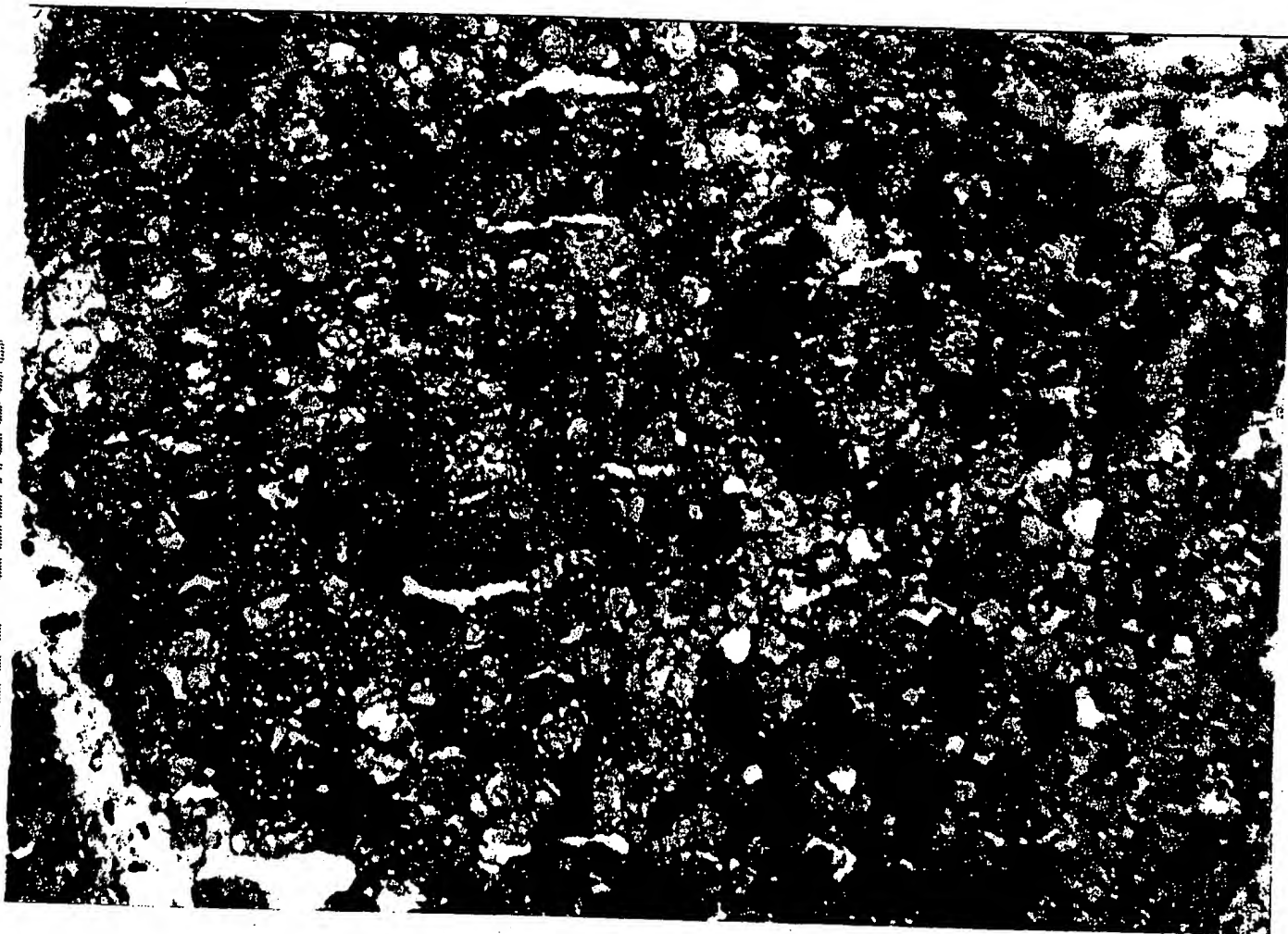


FIGURE 30

A high-contrast, black and white photograph showing a dense, textured surface, possibly a rock face or a wall. The image is characterized by a multitude of small, light-colored spots and patches of varying sizes, creating a speckled or mottled appearance. These lighter areas are set against a dark, almost black background. The overall effect is one of extreme contrast and intricate detail, with no discernible text or figures.

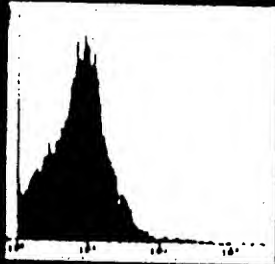
FIGURE 31

A high-contrast, black and white image showing a dense, textured surface, possibly a book cover or a heavily patterned fabric. The texture is irregular and grainy, with many small, light-colored specks and larger, darker patches. The overall appearance is that of a heavily worn or damaged surface.

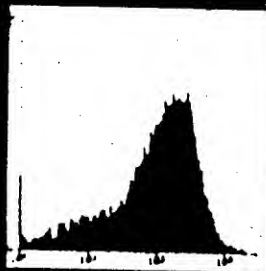
**FIGURE 32**

# PSCA Expression in LAPC-9 Xenograft by FACS

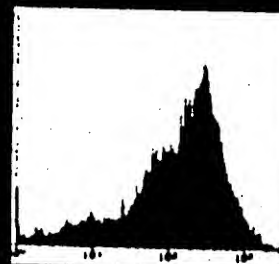
Secondary Antibody



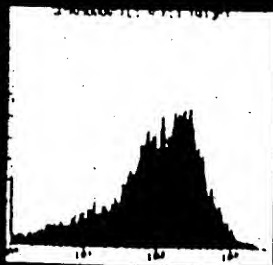
1G8



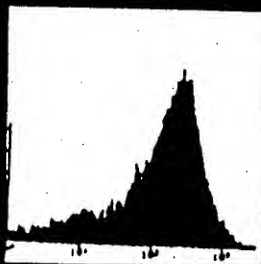
2H9



4A10



3C5



3E6

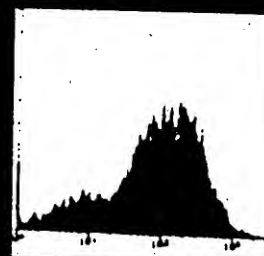


FIGURE 33





Immunofluorescent Staining of LNCaP-PSCA Cells

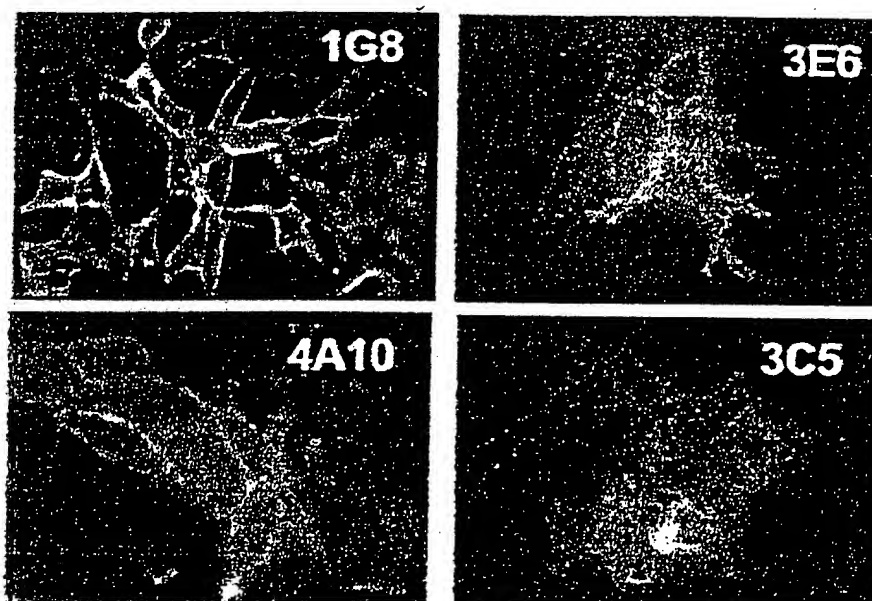


FIGURE 35

[illegible]

FIGURE 3.6

101-22-660

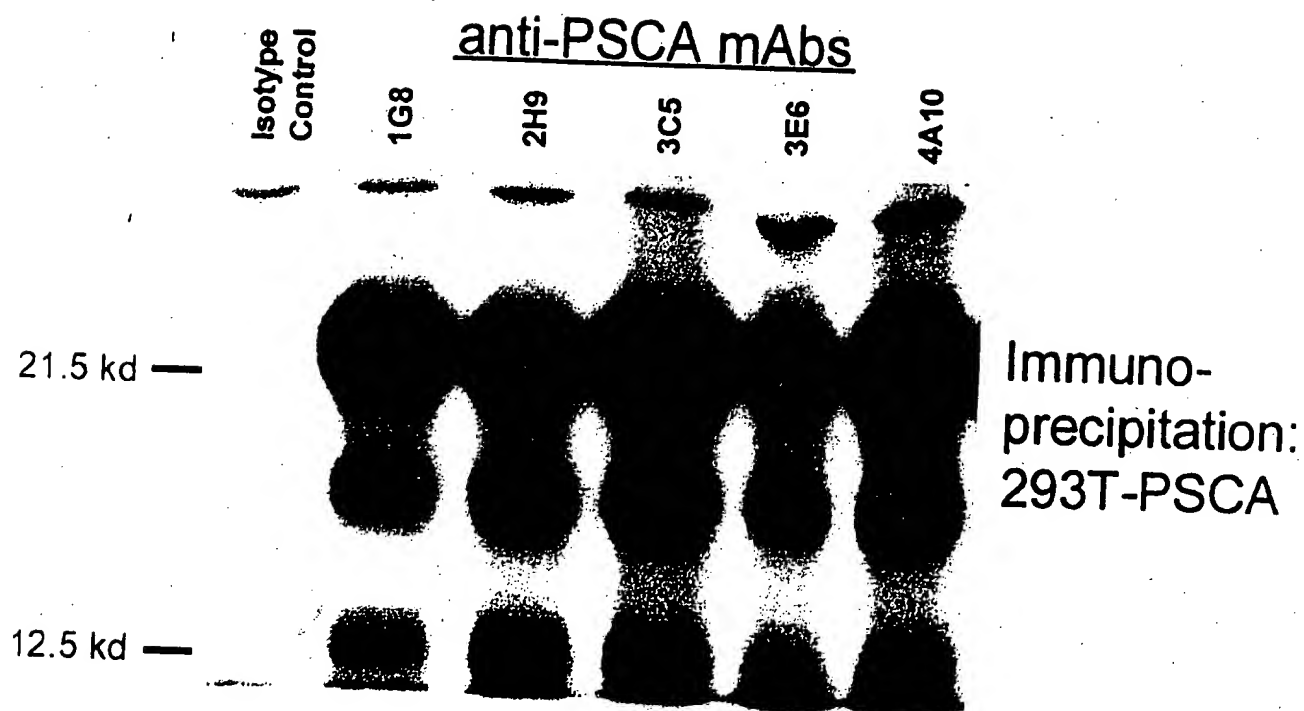
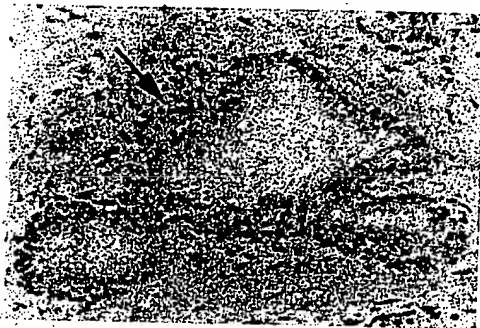


FIGURE 37

## Immunohistochemical Staining of Normal Prostate

Normal: Isotype Control



Normal: PSCA mAb 3E6



Normal: PSCA mAb 1G8



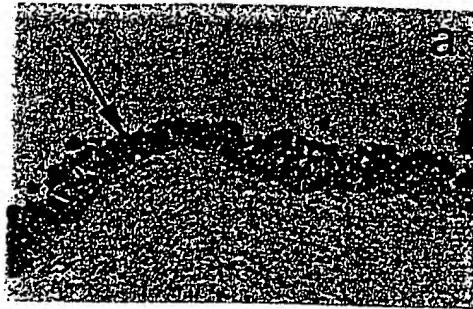
Atrophy: PSCA mAb 2H9



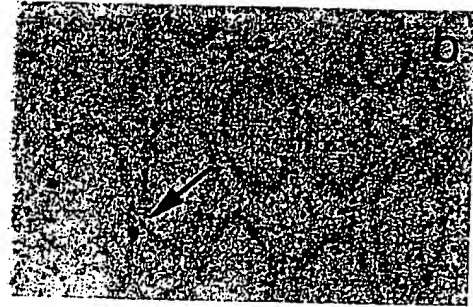
FIGURE 38

107280" E224E660

A.



Bladder: 1G8



Colon: 1G8



Kidney: 3E6



Placenta: 3E6

B.

Prostate  
Prostate  
Prostate  
Kidney  
Kidney  
Kidney  
Bladder  
Bladder  
Bladder  
LAPC 9



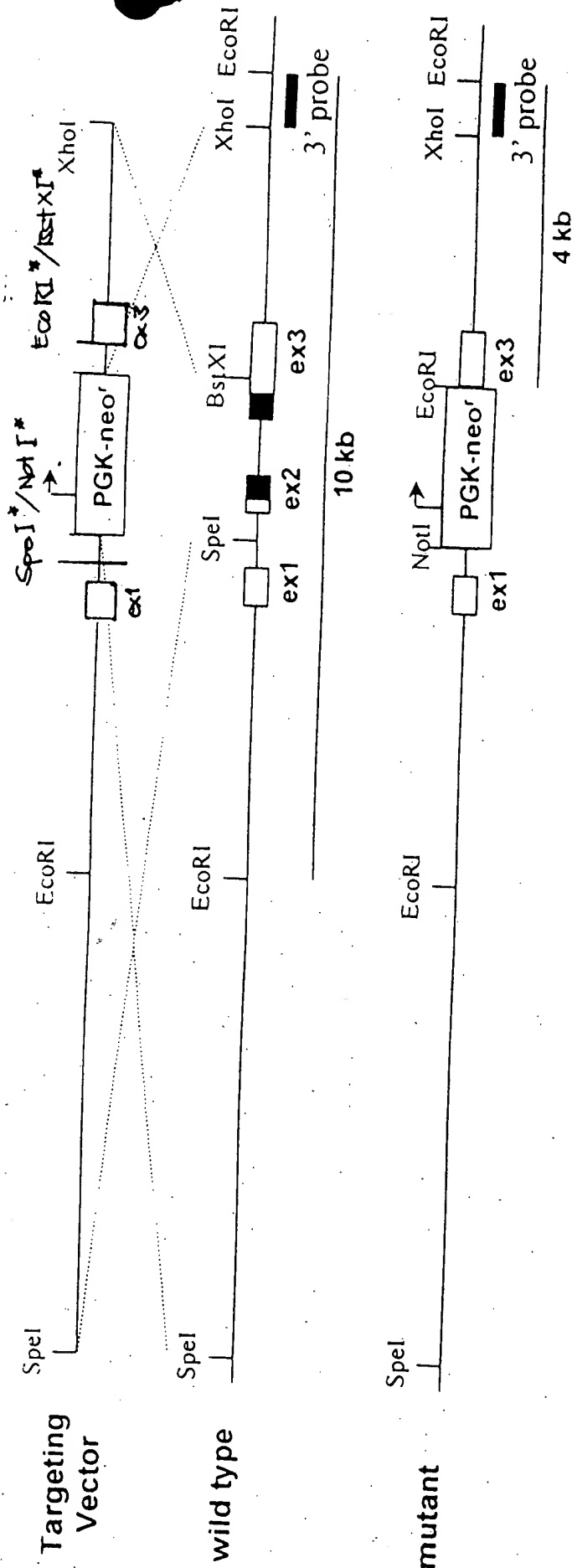
PSCA

Actin

FIGURE 39

# Targeting of Mouse PSCA Gene

A



- \* ex1, 2, and 3 are the exons of PSCA gene.
- \* Black boxes of ex2 and ex3 encode PSCA mature protein sequences.
- \* ES genomic DNAs were digested with EcoRI, followed by Southern hybridization using 3' probe

## B. Genomic Southern Analysis of ES Cells

+/- +/-

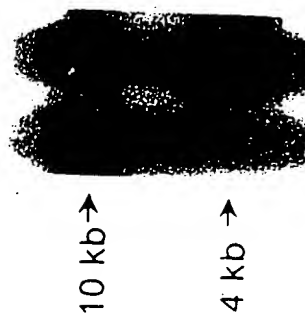
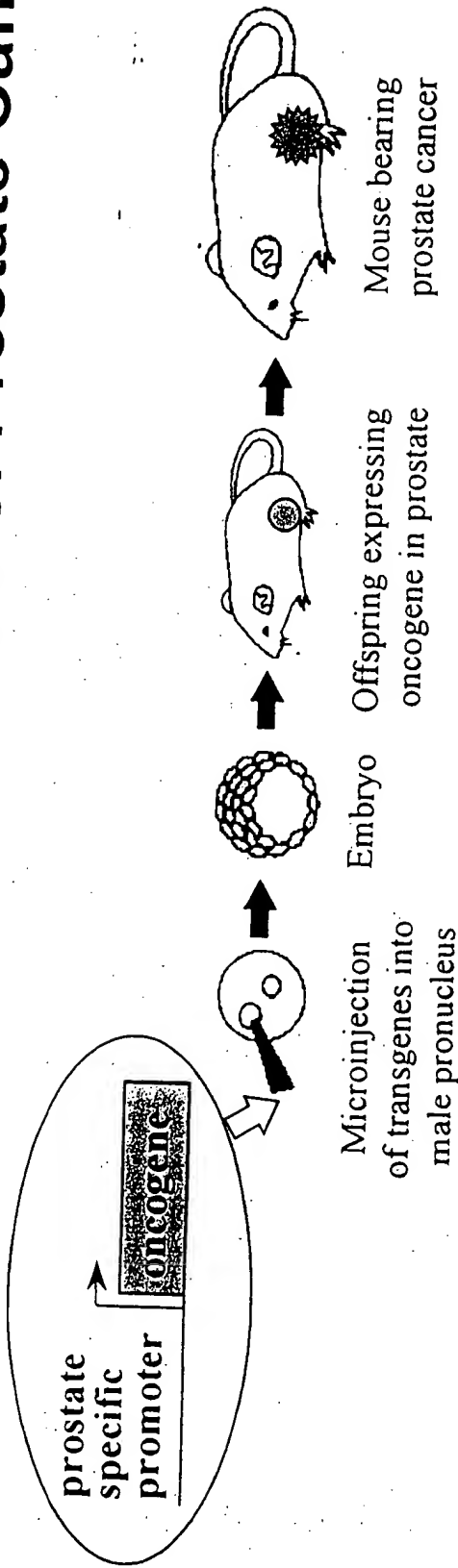


FIGURE 40

# Transgenic Mouse Models of Prostate Cancer



Transgene	Target tissues	Characteristics
C3(1) (-3 kb)/ SV40 large+small T <i>Maroulakou et al.</i> 1994 <i>PNAS</i>	prostate (secretory cells) urethral, mammary and sweat gland	Low-grade PIN 8-12 wks High-grade PIN 8-12 wks Invasive carcinoma 28 wks No metastases
Probasin (-426 bp)/ SV40 large+small T <i>Greenberg et al.</i> 1995 <i>PNAS</i>	prostate (secretory cells)	Low-grade PIN 5-8 wks High-grade PIN 8-12 wks Invasive carcinoma 12 wks Metastases in lymph node, lung, liver and bone
Cryptdin2 (-6.5 kb)/ SV40 large+small T <i>Garabedian et al.</i> 1998 <i>PNAS</i>	prostate (neuroendocrine cells) small intestine	Low-grade PIN 8-12 wks High-grade PIN 8-12 wks Invasive carcinoma 16 wks Metastases in lymph node, lung, liver and bone

FIGURE 41



# Reporter Gene Constructs for Transfection Assay

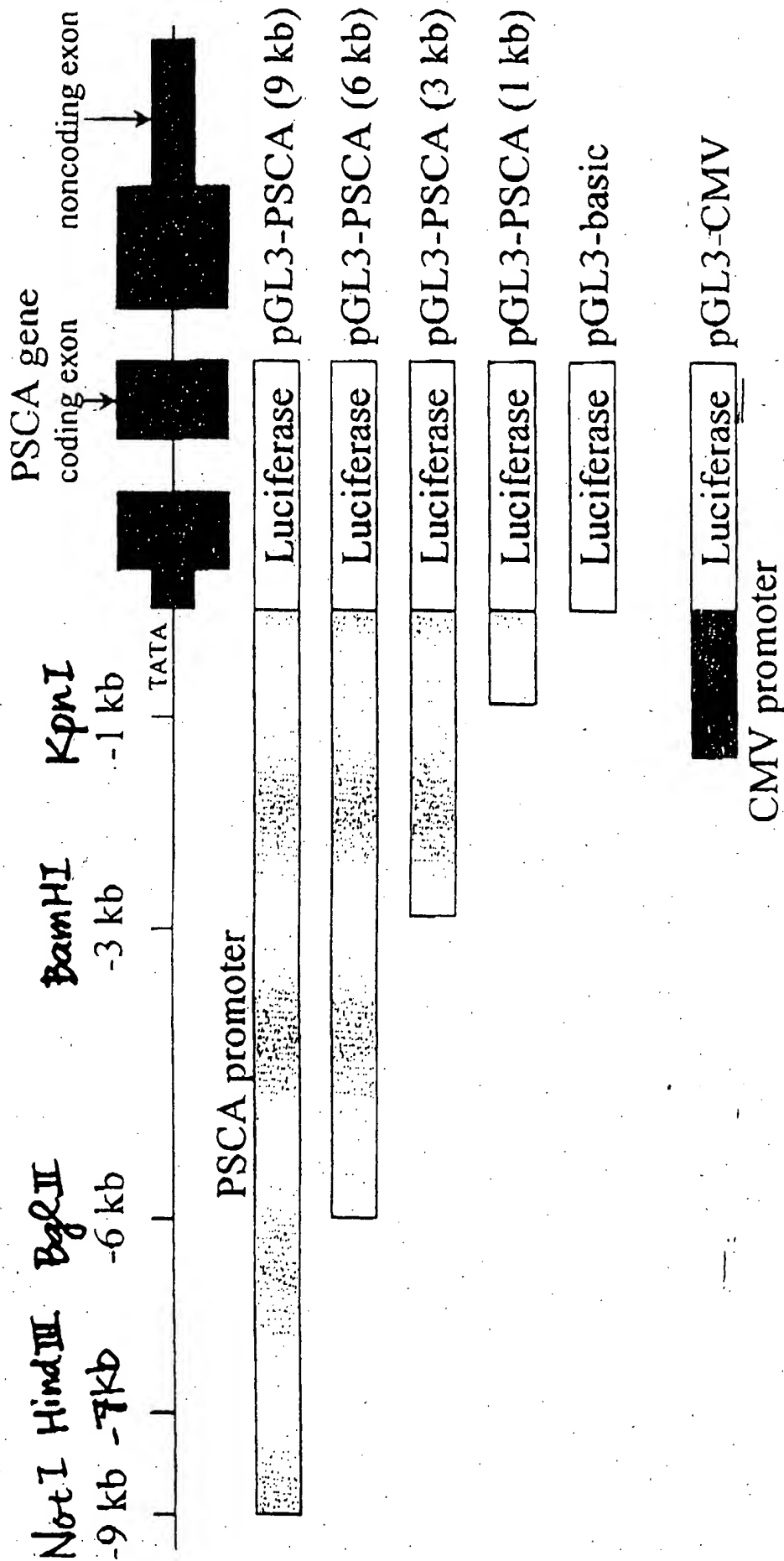


FIGURE 42

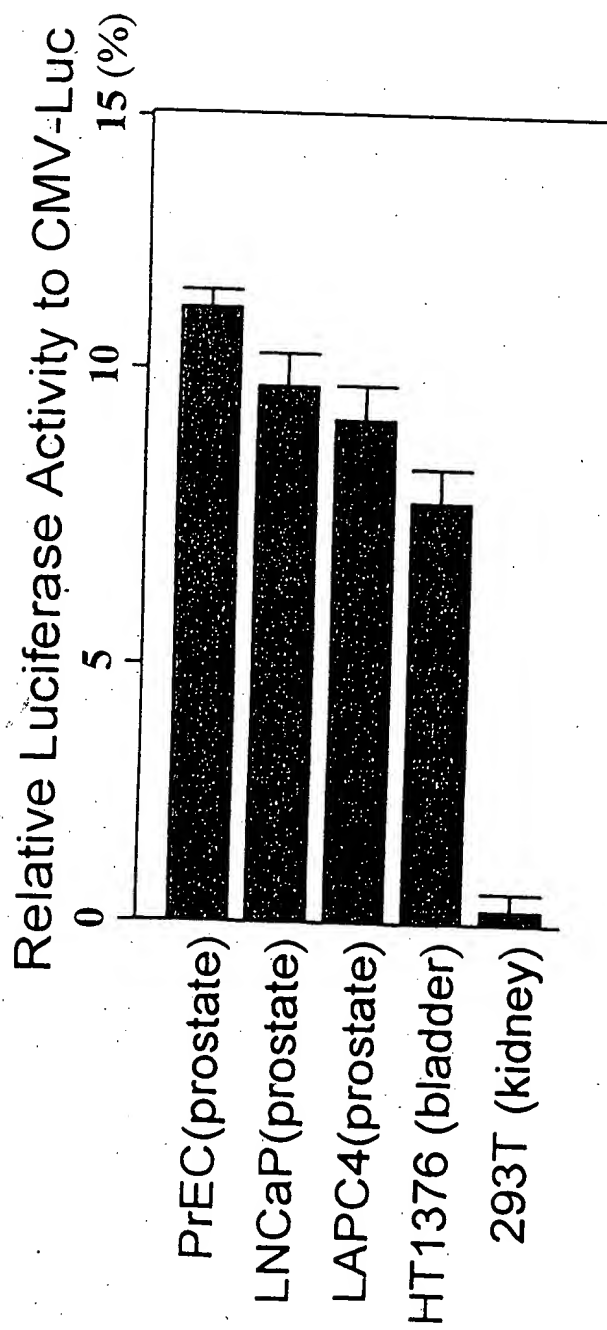


FIGURE 43

# Identification of Prostate-Specific Elements Within PSCA Promoter Sequences

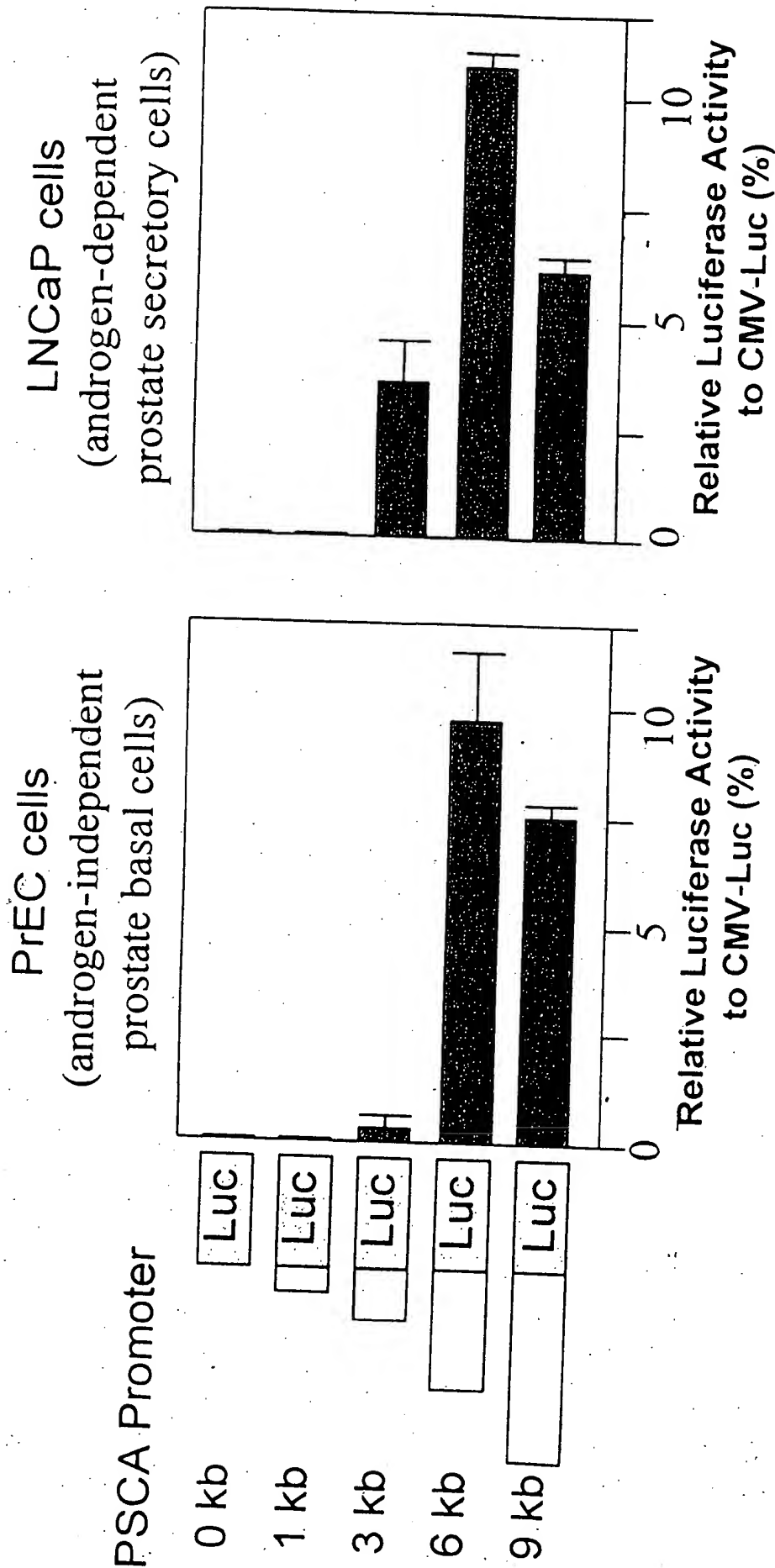


FIGURE 44

# Update of Transgenic Mouse Projects

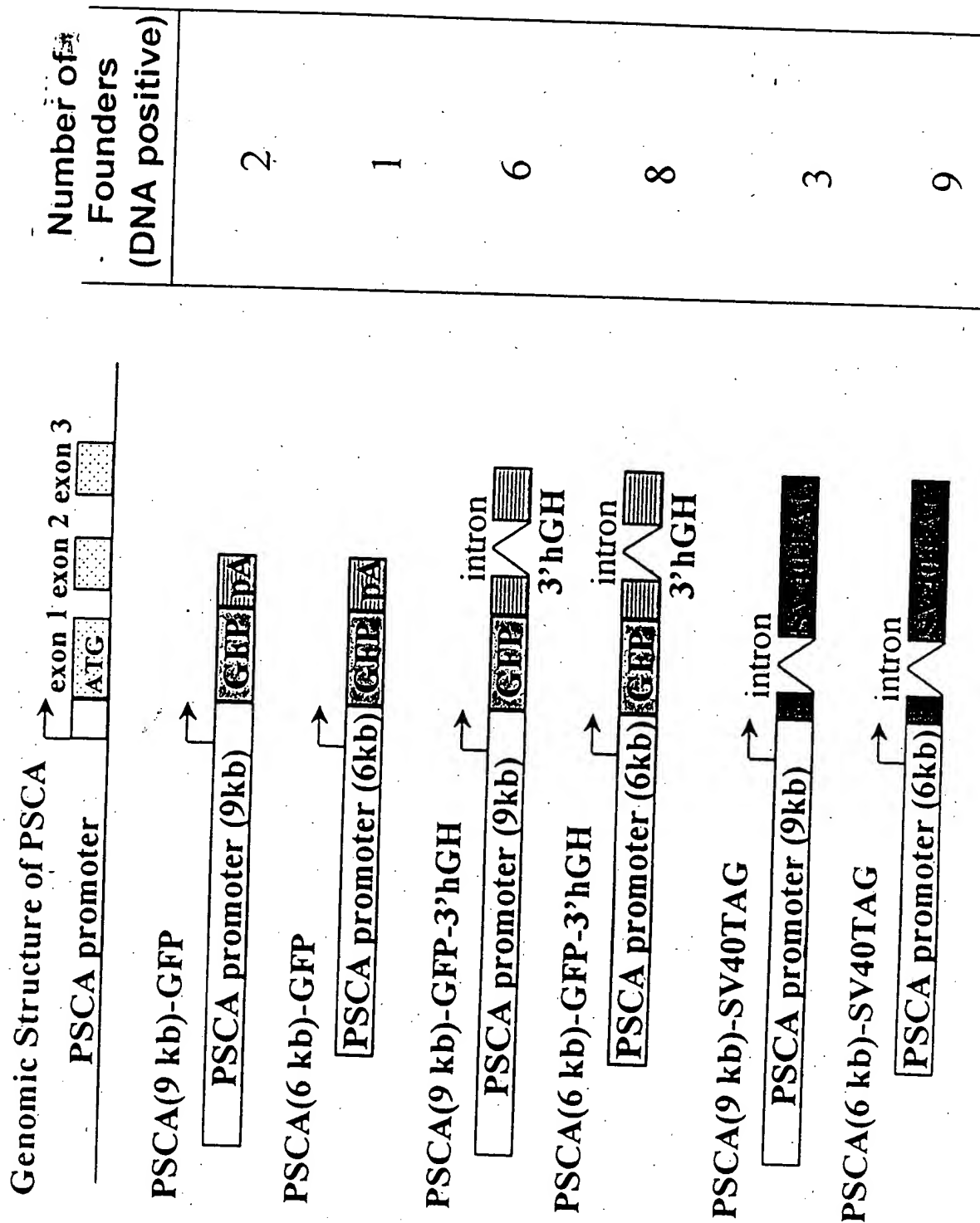
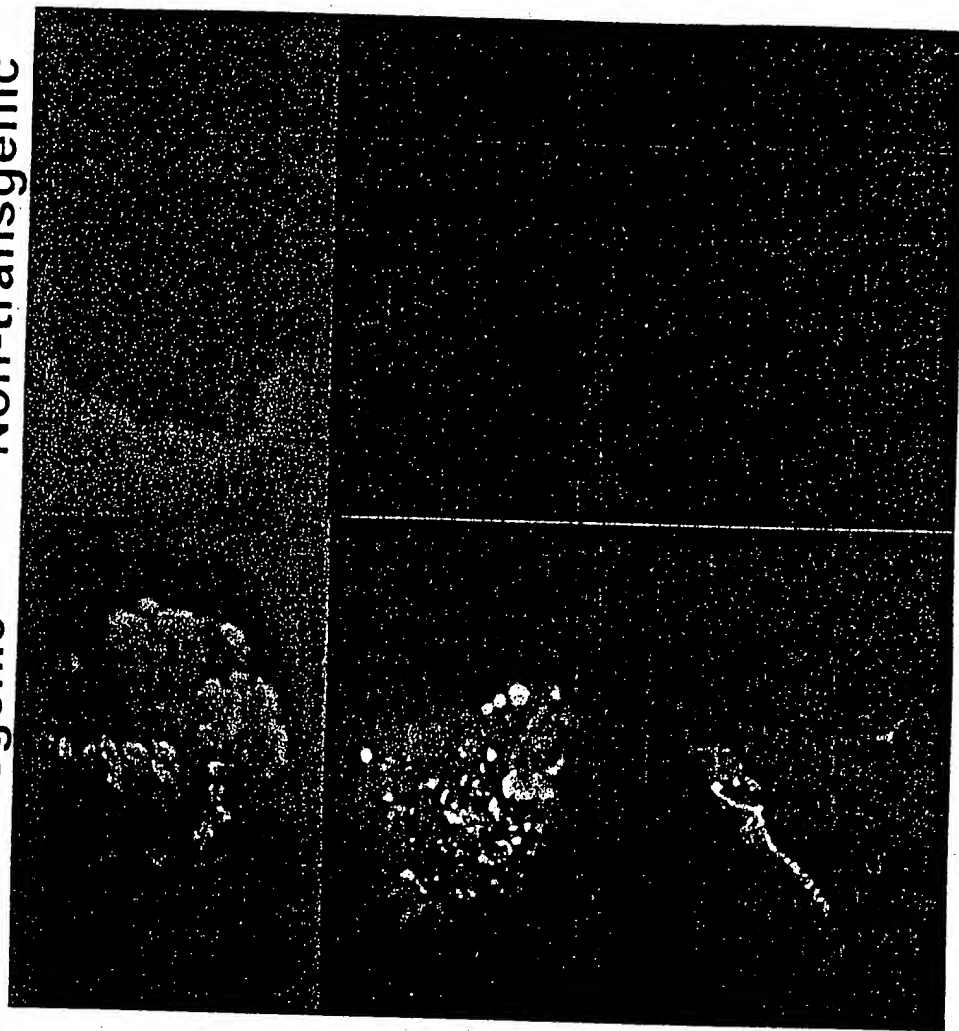


FIGURE 45

Whole-mount green fluorescence image  
Transgenic Non-transgenic



Negative tissues

Stomach

Small intestine

Colon

Seminal Vesicle

Urethra

Testis

Liver

Kidney

Lung

Brain

Heart

Skeletal muscle

Ovary

Uterus

Prostate

(A25-106-2)

Bladder

(A25-104)

Skin

(A25-106-2)

HUMAN  
Spleen  
Thymus  
Prostate  
Testis  
Ovary  
S. int.  
Colon  
PBL

Heart  
Brain  
Placenta  
Lung  
Liver  
Muscle  
Kidney  
Panc.

hPSCA →

# Northern Analysis

MOUSE

Ant. prostate  
Dorsol. prostate  
Ventral prostate  
Bladder  
Seminal vesicle  
Urethra  
Testis  
Kidney  
Esophagus  
Cardiac stomach  
Body of stomach  
Pyloric stomach  
Duodenum  
Small intestine  
Colon  
Salivary gland  
Spleen  
Thymus  
Bone marrow  
Skeletal muscle  
Heart  
Brain  
Eye  
Lung  
Liver  
Skin

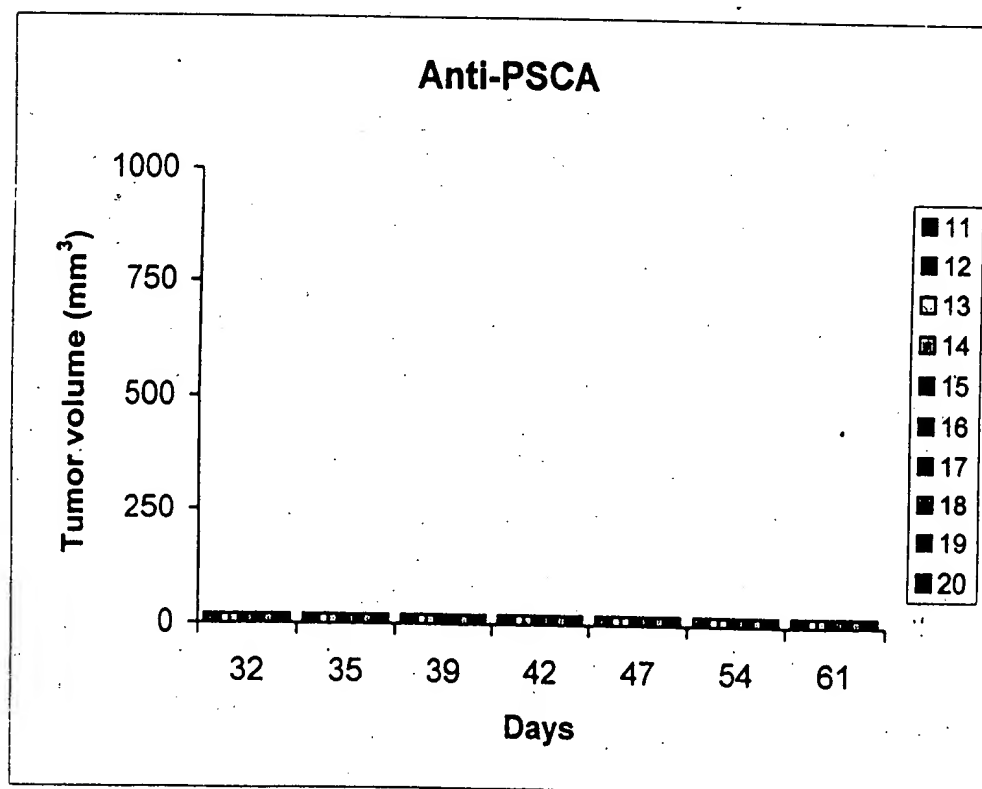
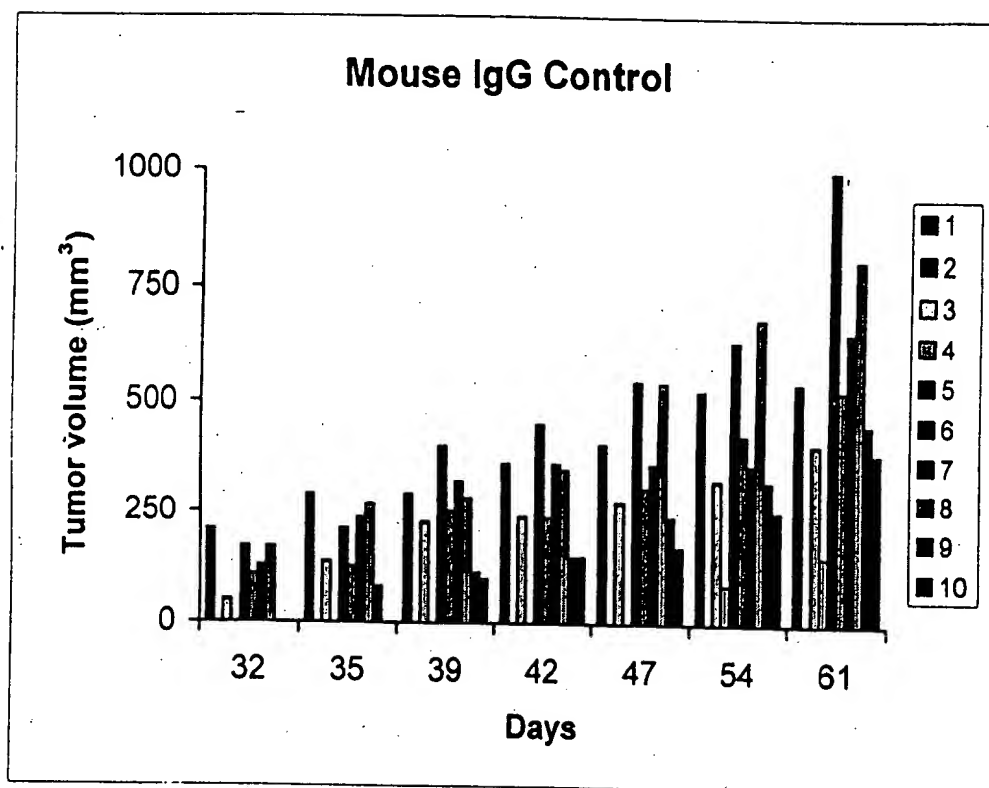
mPSCA →

mG3PDH →

## RT-PCR

FIGURE 47

1770-1771 1772-1773 1774-1775 1776-1777 1778-1779 1780-1781 1782-1783 1784-1785 1786-1787 1788-1789 1790-1791 1792-1793 1794-1795 1796-1797 1798-1799 1800-1801 1802-1803 1804-1805 1806-1807 1808-1809 1810-1811 1812-1813 1814-1815 1816-1817 1818-1819 1820-1821 1822-1823 1824-1825 1826-1827 1828-1829 1830-1831 1832-1833 1834-1835 1836-1837 1838-1839 1840-1841 1842-1843 1844-1845 1846-1847 1848-1849 1850-1851 1852-1853 1854-1855 1856-1857 1858-1859 1860-1861 1862-1863 1864-1865 1866-1867 1868-1869 1870-1871 1872-1873 1874-1875 1876-1877 1878-1879 1880-1881 1882-1883 1884-1885 1886-1887 1888-1889 1890-1891 1892-1893 1894-1895 1896-1897 1898-1899 1900-1901 1902-1903 1904-1905 1906-1907 1908-1909 1910-1911 1912-1913 1914-1915 1916-1917 1918-1919 1920-1921 1922-1923 1924-1925 1926-1927 1928-1929 1930-1931 1932-1933 1934-1935 1936-1937 1938-1939 1940-1941 1942-1943 1944-1945 1946-1947 1948-1949 1950-1951 1952-1953 1954-1955 1956-1957 1958-1959 1960-1961 1962-1963 1964-1965 1966-1967 1968-1969 1970-1971 1972-1973 1974-1975 1976-1977 1978-1979 1980-1981 1982-1983 1984-1985 1986-1987 1988-1989 1990-1991 1992-1993 1994-1995 1996-1997 1998-1999 2000-2001 2002-2003 2004-2005 2006-2007 2008-2009 2010-2011 2012-2013 2014-2015 2016-2017 2018-2019 2020-2021 2022-2023 2024-2025 2026-2027 2028-2029 2030-2031 2032-2033 2034-2035 2036-2037 2038-2039 2040-2041 2042-2043 2044-2045 2046-2047 2048-2049 2050-2051 2052-2053 2054-2055 2056-2057 2058-2059 2060-2061 2062-2063 2064-2065 2066-2067 2068-2069 2070-2071 2072-2073 2074-2075 2076-2077 2078-2079 2080-2081 2082-2083 2084-2085 2086-2087 2088-2089 2090-2091 2092-2093 2094-2095 2096-2097 2098-2099 2100-2101 2102-2103 2104-2105 2106-2107 2108-2109 2110-2111 2112-2113 2114-2115 2116-2117 2118-2119 2120-2121 2122-2123 2124-2125 2126-2127 2128-2129 2130-2131 2132-2133 2134-2135 2136-2137 2138-2139 2140-2141 2142-2143 2144-2145 2146-2147 2148-2149 2150-2151 2152-2153 2154-2155 2156-2157 2158-2159 2160-2161 2162-2163 2164-2165 2166-2167 2168-2169 2170-2171 2172-2173 2174-2175 2176-2177 2178-2179 2180-2181 2182-2183 2184-2185 2186-2187 2188-2189 2190-2191 2192-2193 2194-2195 2196-2197 2198-2199 2200-2201 2202-2203 2204-2205 2206-2207 2208-2209 2210-2211 2212-2213 2214-2215 2216-2217 2218-2219 2220-2221 2222-2223 2224-2225 2226-2227 2228-2229 2230-2231 2232-2233 2234-2235 2236-2237 2238-2239 2240-2241 2242-2243 2244-2245 2246-2247 2248-2249 2250-2251 2252-2253 2254-2255 2256-2257 2258-2259 2260-2261 2262-2263 2264-2265 2266-2267 2268-2269 2270-2271 2272-2273 2274-2275 2276-2277 2278-2279 2280-2281 2282-2283 2284-2285 2286-2287 2288-2289 2290-2291 2292-2293 2294-2295 2296-2297 2298-2299 2300-2301 2302-2303 2304-2305 2306-2307 2308-2309 2310-2311 2312-2313 2314-2315 2316-2317 2318-2319 2320-2321 2322-2323 2324-2325 2326-2327 2328-2329 2330-2331 2332-2333 2334-2335 2336-2337 2338-2339 2340-2341 2342-2343 2344-2345 2346-2347 2348-2349 2350-2351 2352-2353 2354-2355 2356-2357 2358-2359 2360-2361 2362-2363 2364-2365 2366-2367 2368-2369 2370-2371 2372-2373 2374-2375 2376-2377 2378-2379 2380-2381 2382-2383 2384-2385 2386-2387 2388-2389 2390-2391 2392-2393 2394-2395 2396-2397 2398-2399 2400-2401 2402-2403 2404-2405 2406-2407 2408-2409 2410-2411 2412-2413 2414-2415 2416-2417 2418-2419 2420-2421 2422-2423 2424-2425 2426-2427 2428-2429 2430-2431 2432-2433 2434-2435 2436-2437 2438-2439 2440-2441 2442-2443 2444-2445 2446-2447 2448-2449 2450-2451 2452-2453 2454-2455 2456-2457 2458-2459 2460-2461 2462-2463 2464-2465 2466-2467 2468-2469 2470-2471 2472-2473 2474-2475 2476-2477 2478-2479 2480-2481 2482-2483 2484-2485 2486-2487 2488-2489 2490-2491 2492-2493 2494-2495 2496-2497 2498-2499 2500-2501 2502-2503 2504-2505 2506-2507 2508-2509 2510-2511 2512-2513 2514-2515 2516-2517 2518-2519 2520-2521 2522-2523 2524-2525 2526-2527 2528-2529 2530-2531 2532-2533 2534-2535 2536-2537 2538-2539 2540-2541 2542-2543 2544-2545 2546-2547 2548-2549 2550-2551 2552-2553 2554-2555 2556-2557 2558-2559 2560-2561 2562-2563 2564-2565 2566-2567 2568-2569 2570-2571 2572-2573 2574-2575 2576-2577 2578-2579 2580-2581 2582-2583 2584-2585 2586-2587 2



**A**

**FIG. 49**

Epitope recognized (OD 450 nm)

<u>mAb</u>	<u>Isotype</u>	<u>F (18-98)</u>	<u>N (2-50)</u>	<u>M (46-109)</u>	<u>C (85-123)</u>
1G8	IgG1 k	1.485	0.004	1.273	0.003
2A2	IgG2a k	0.973	0.631	0.023	0.010
2H9	IgG1 k	1.069	1.026	0.002	0.001
3C5	IgG2a k	1.916	1.709	0.006	0.002
3E6	IgG3 k	1.609	0.036	1.133	2.118
3G3	IgG2a k	2.805	1.731	0.004	0.000
4A10	IgG2a k	1.053	0.493	0.000	0.001

**B**

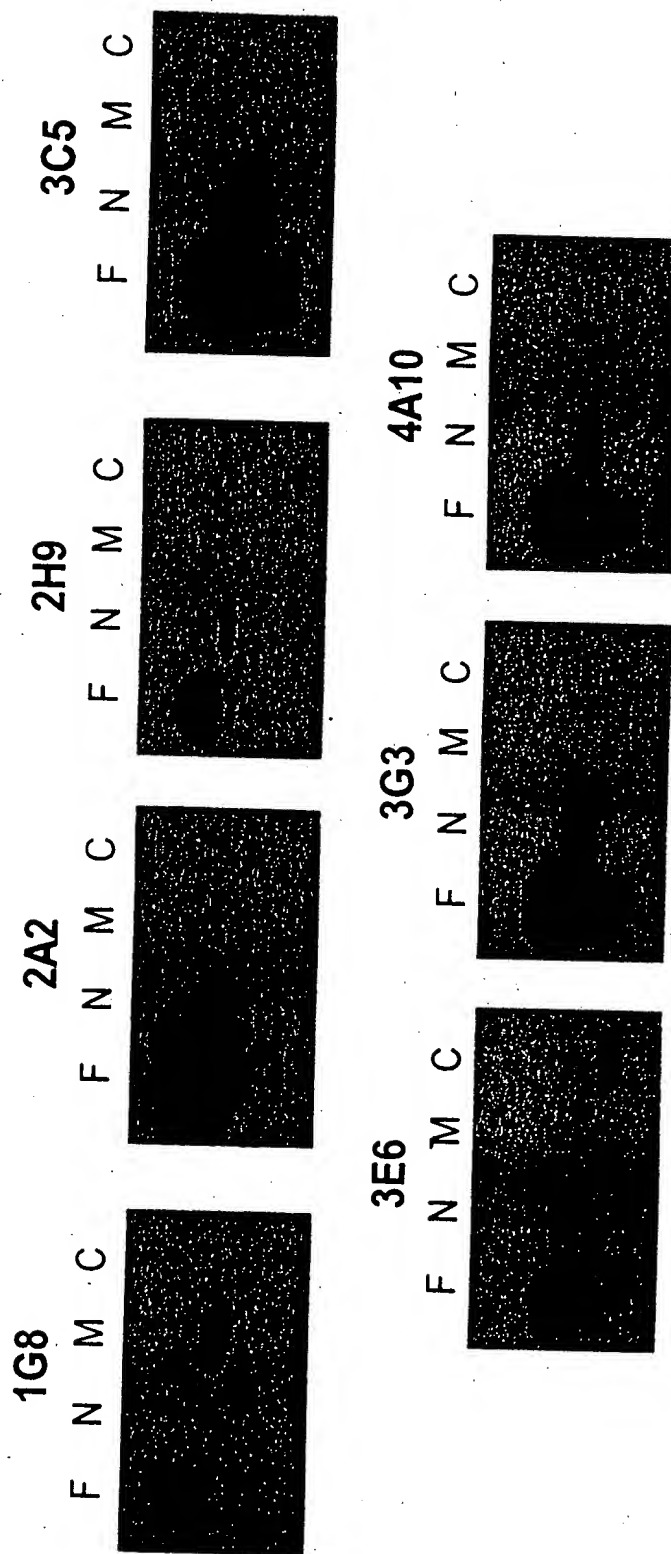
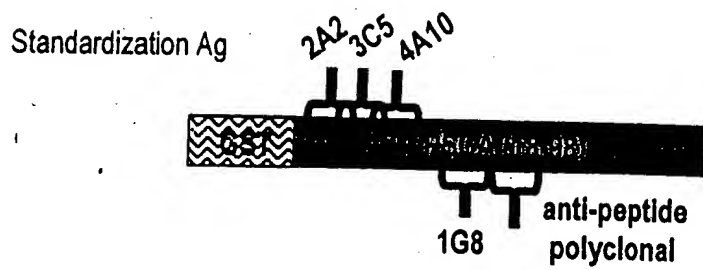




FIG. 50

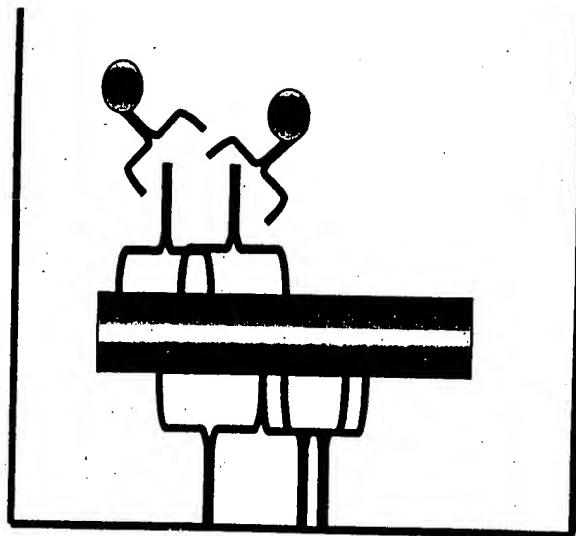
A



Engineered mammalian secreted form



B



Anti-IgG2a HRP

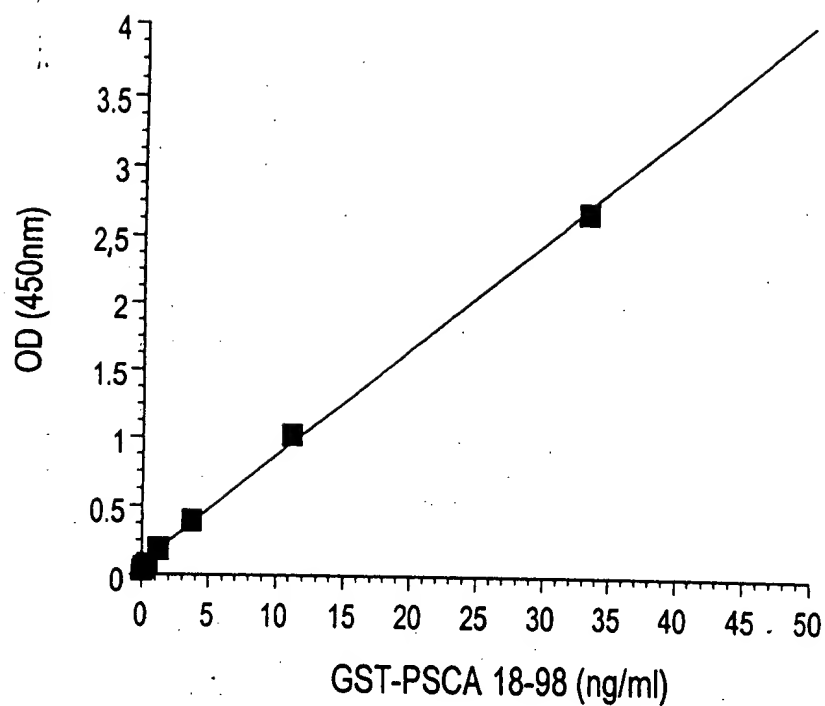
Anti-PSCA mAbs 3C5+4A10+2A2 (IgG2a)

PSCA

Affinity purified anti-peptide polyclonal  
+ mAb 1G8 (IgG1)

FIG. 51

A



B

<u>Sample</u>	<u>OD+range (n=2)</u>	<u>ng/ml</u>
vector	0.005+0.001	ND
vector+hu serum	0.004+0.001	ND
secPSCA	2.695+0.031	32.92
secPSCA+hu serum	2.187+0.029	26.55

FIG. 52

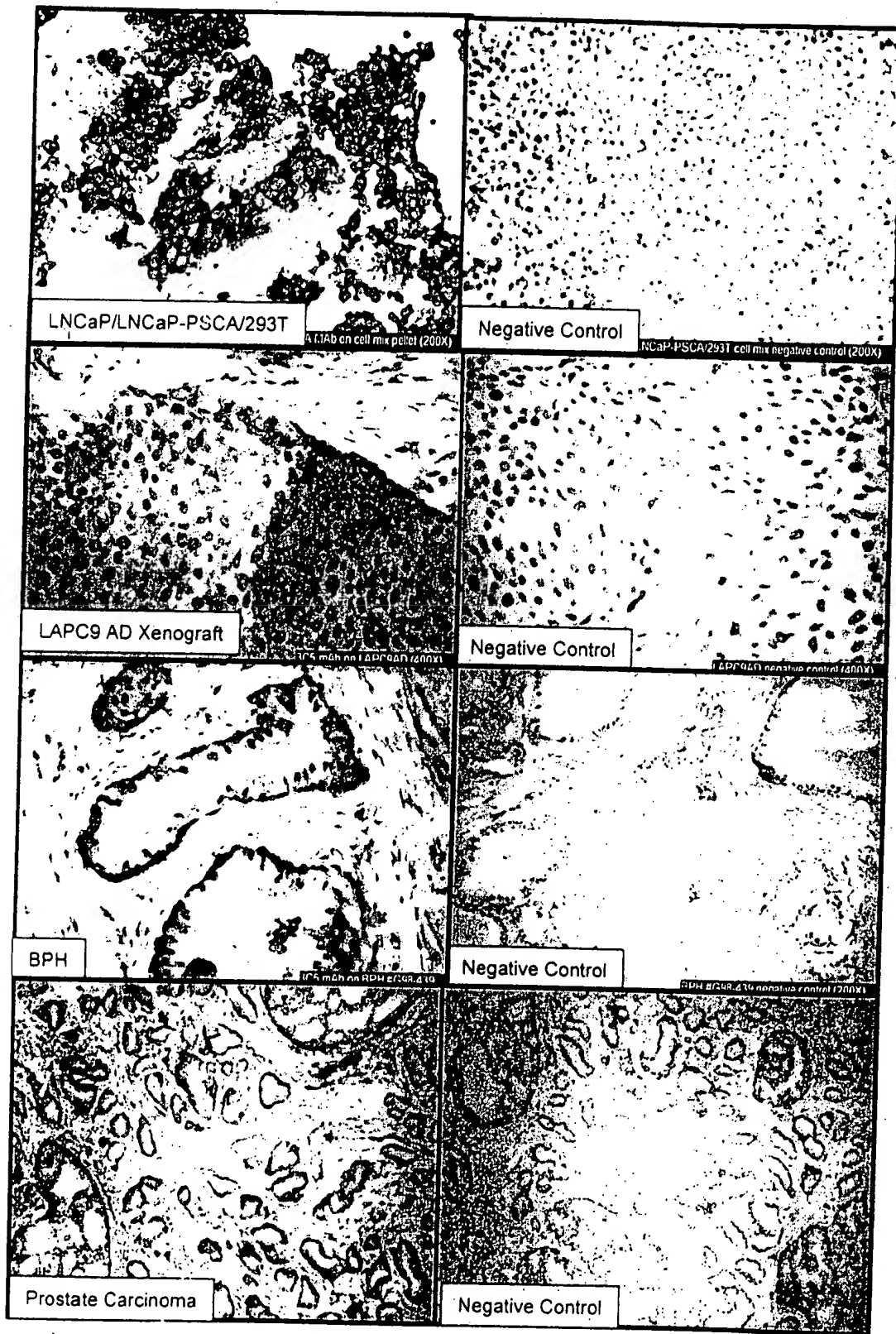
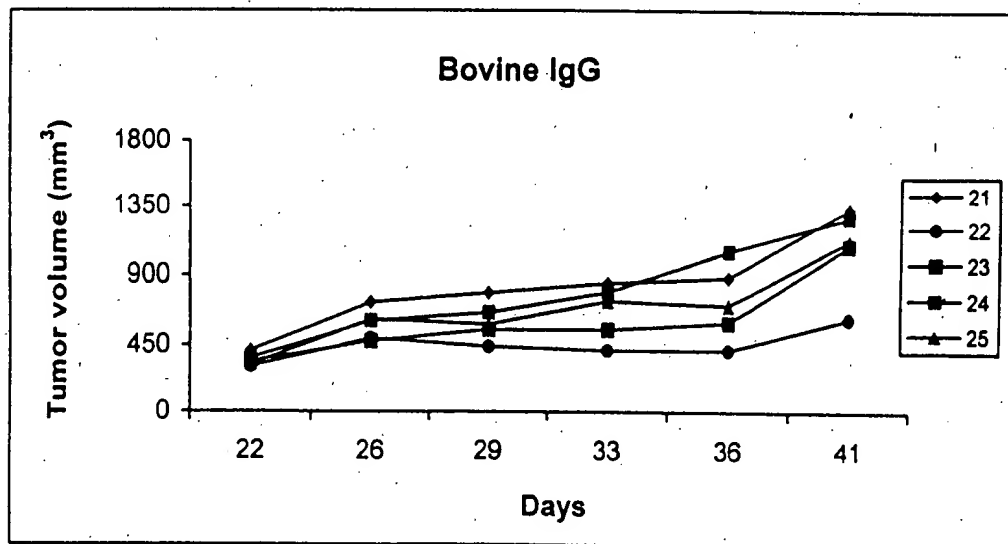
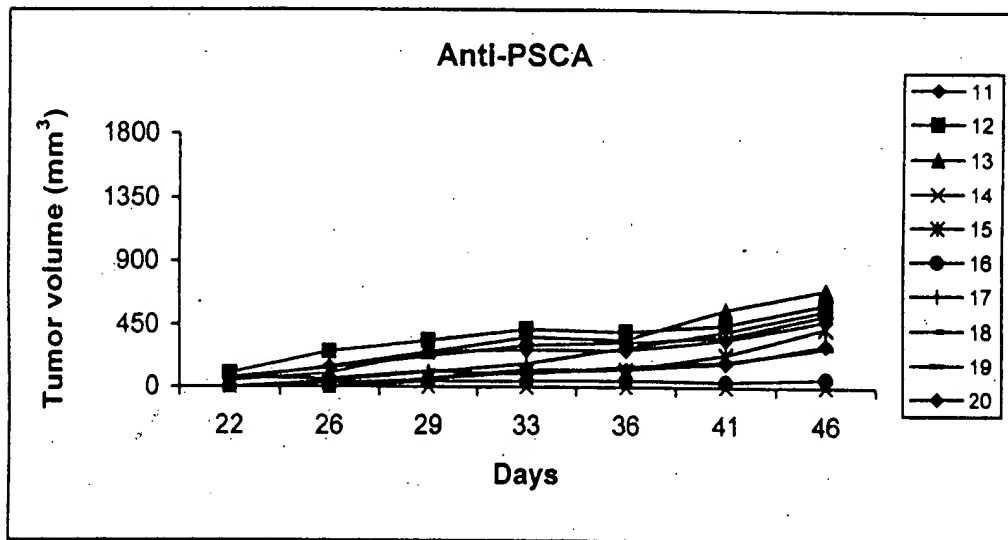
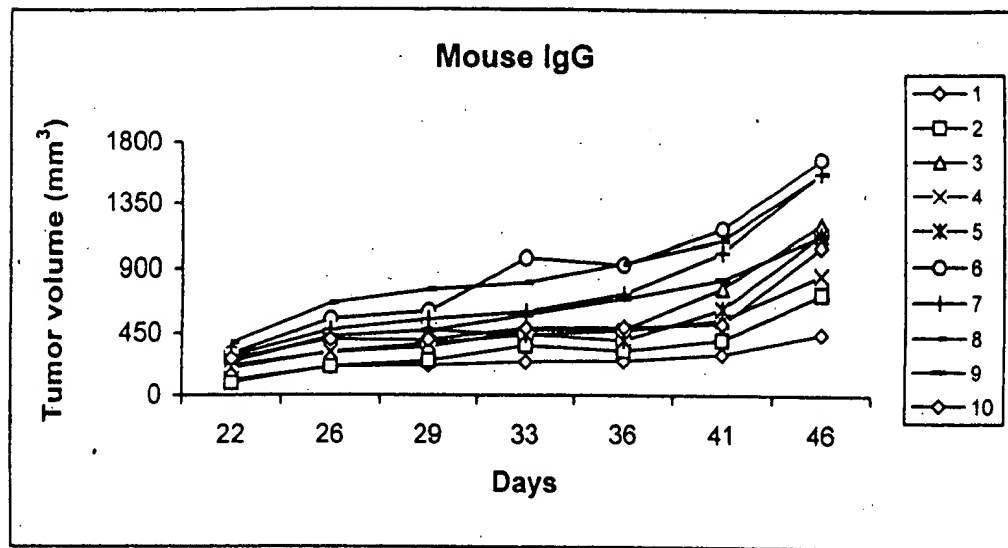


FIG. 53



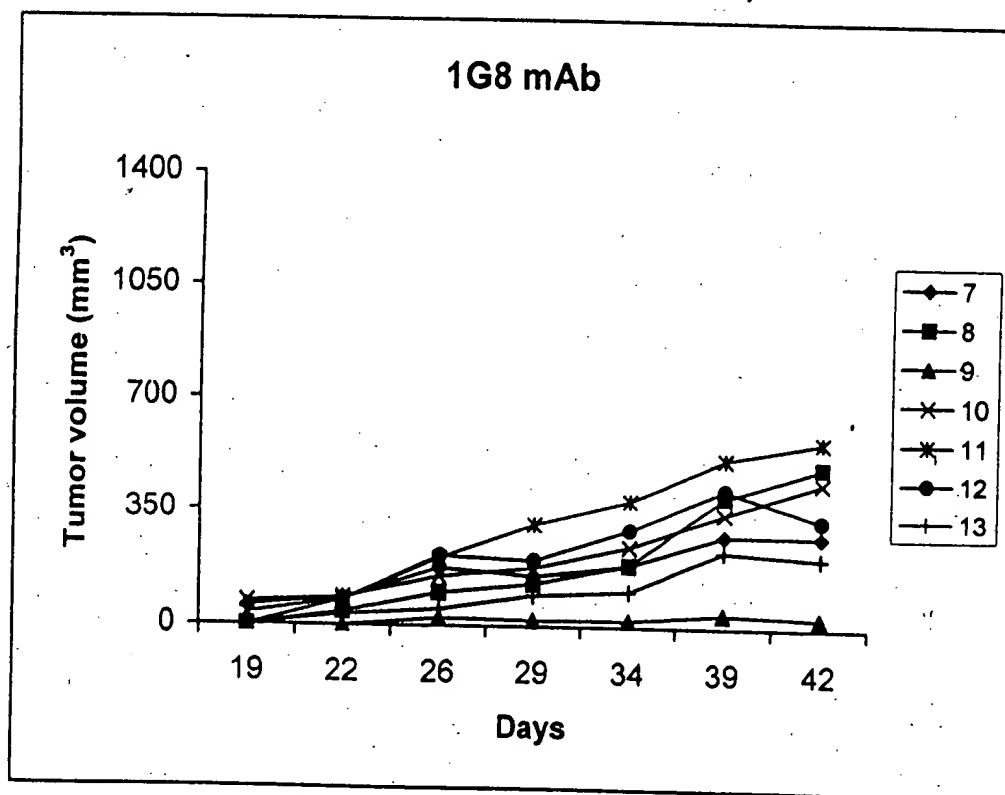
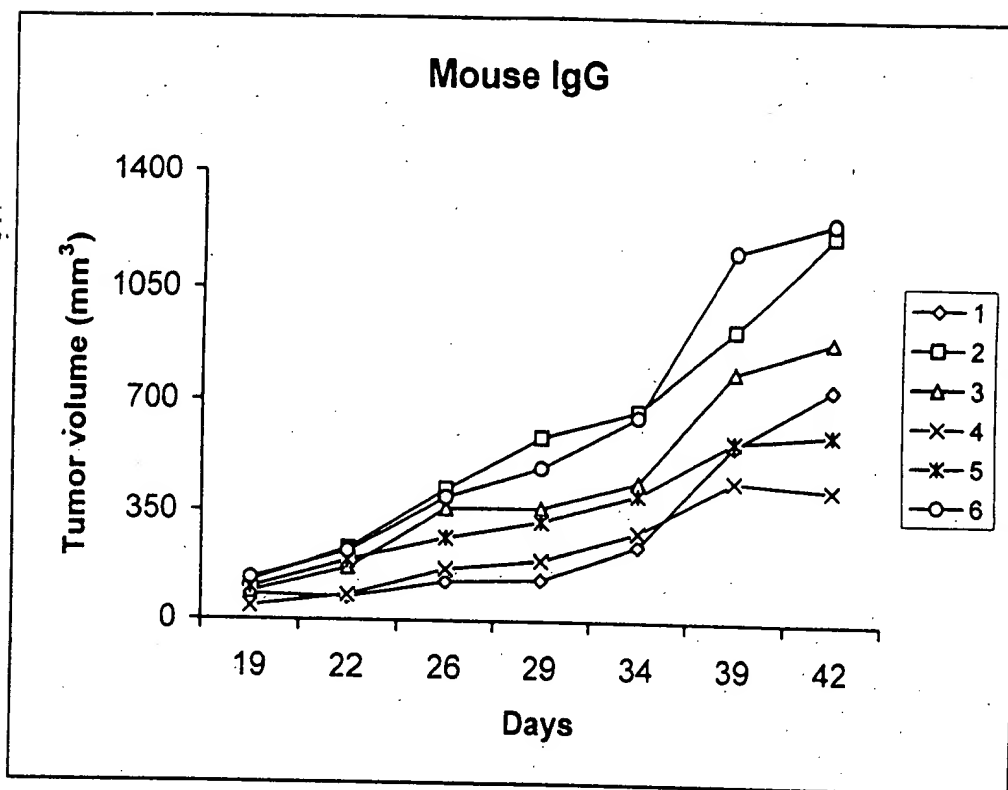
[illegible]

FIG. 55

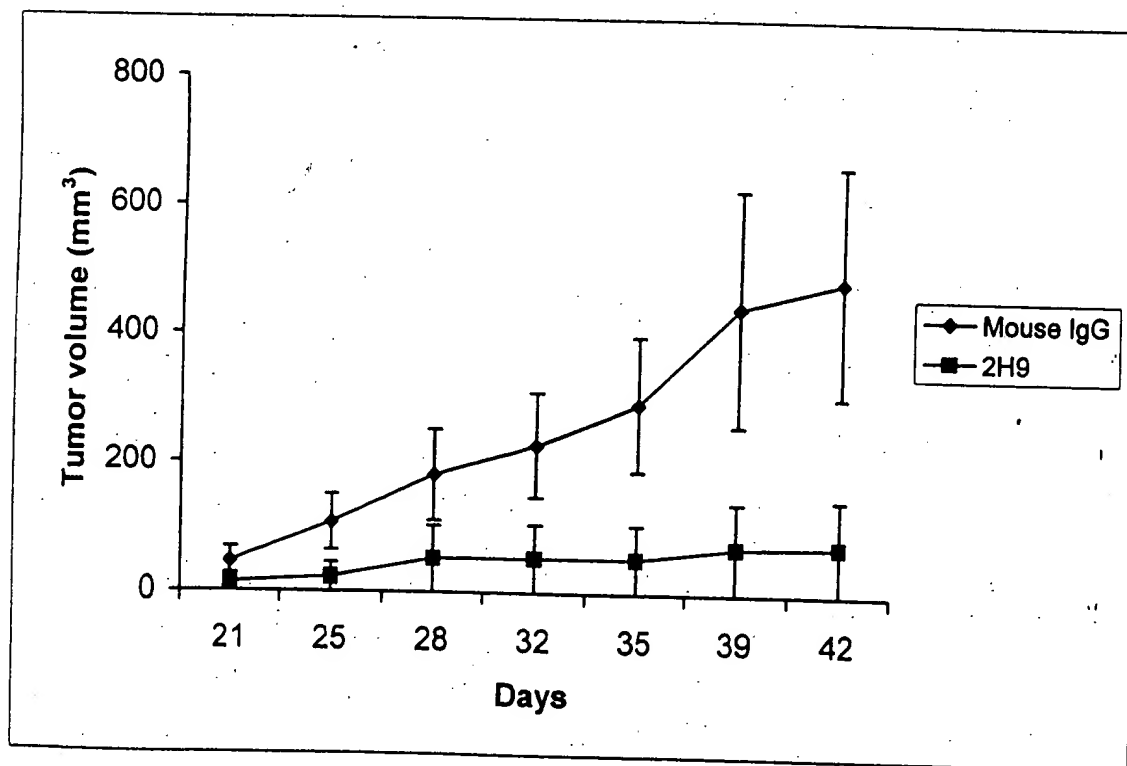
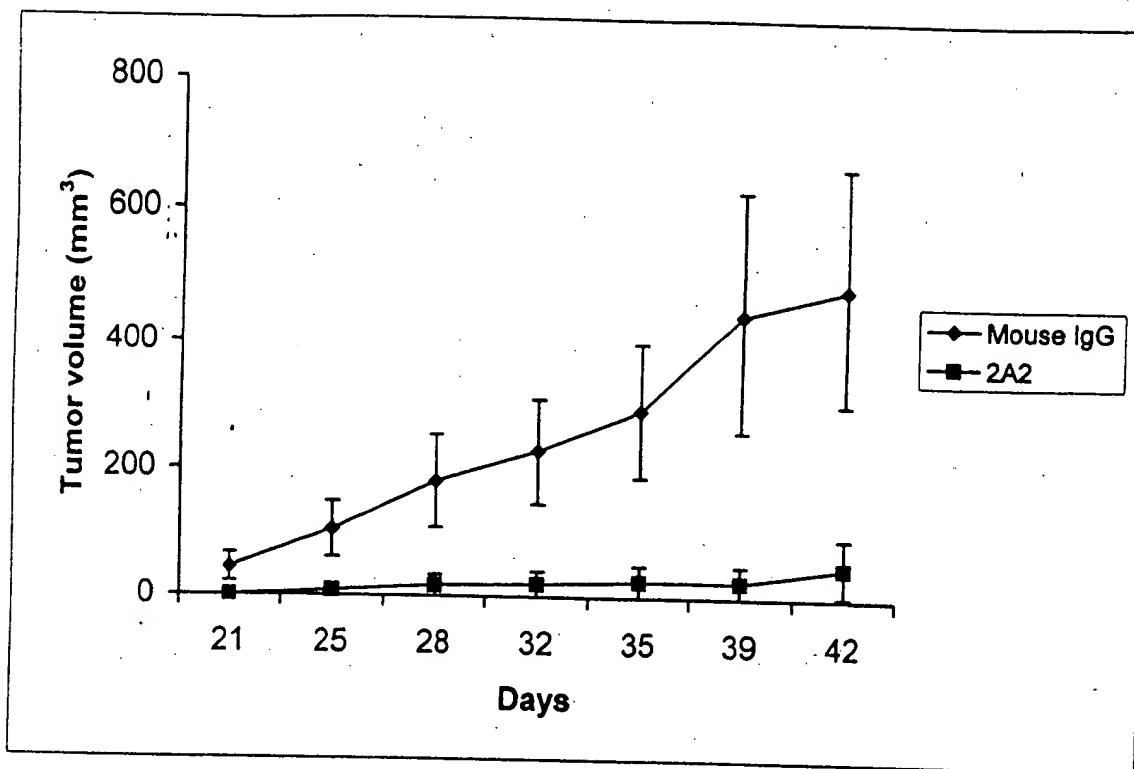


FIG. 56

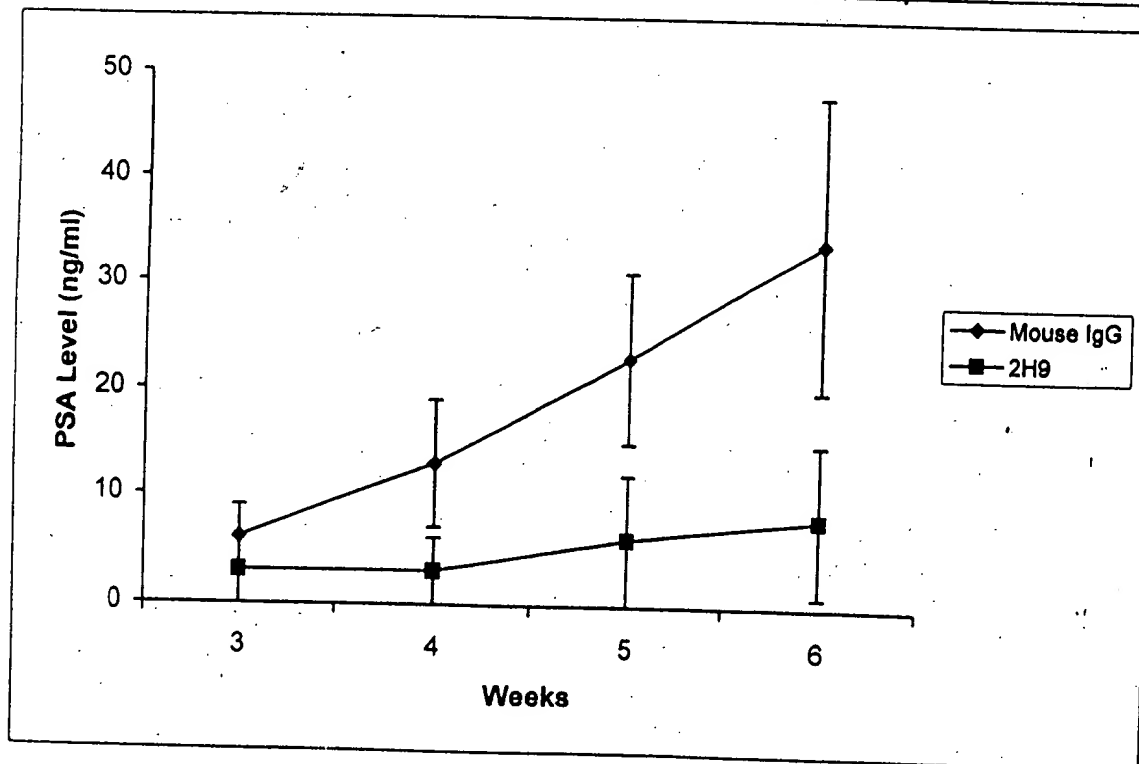
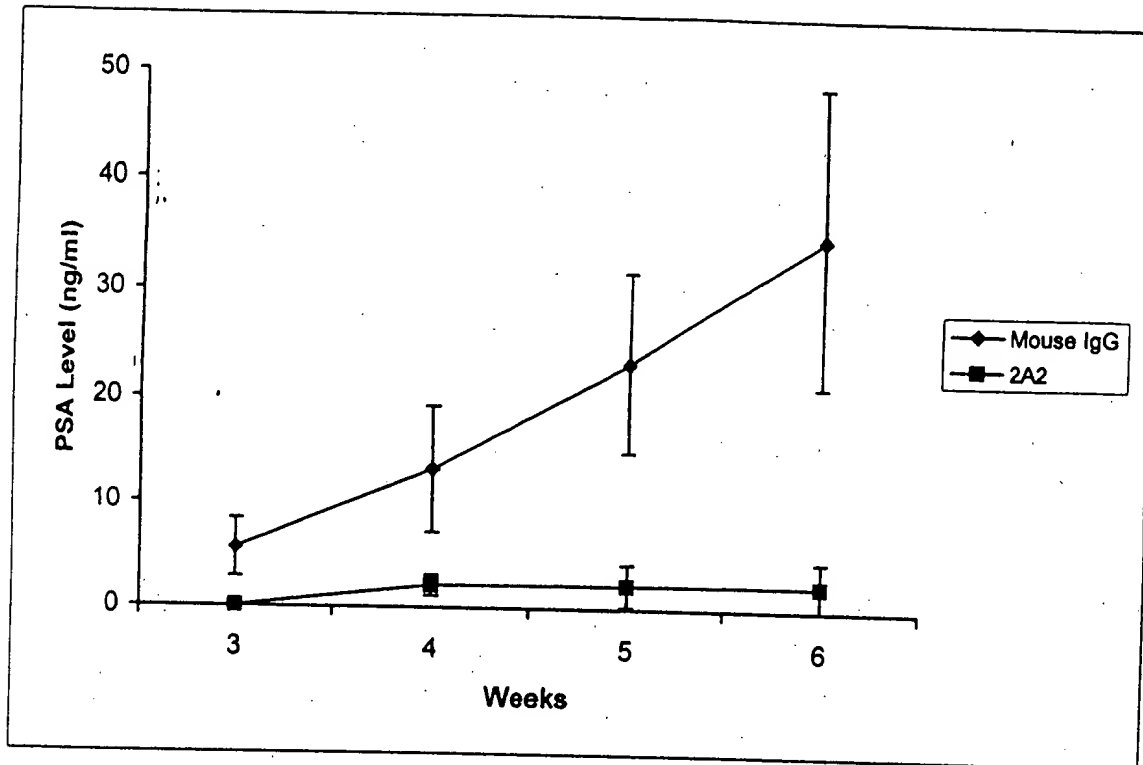


FIG. 57

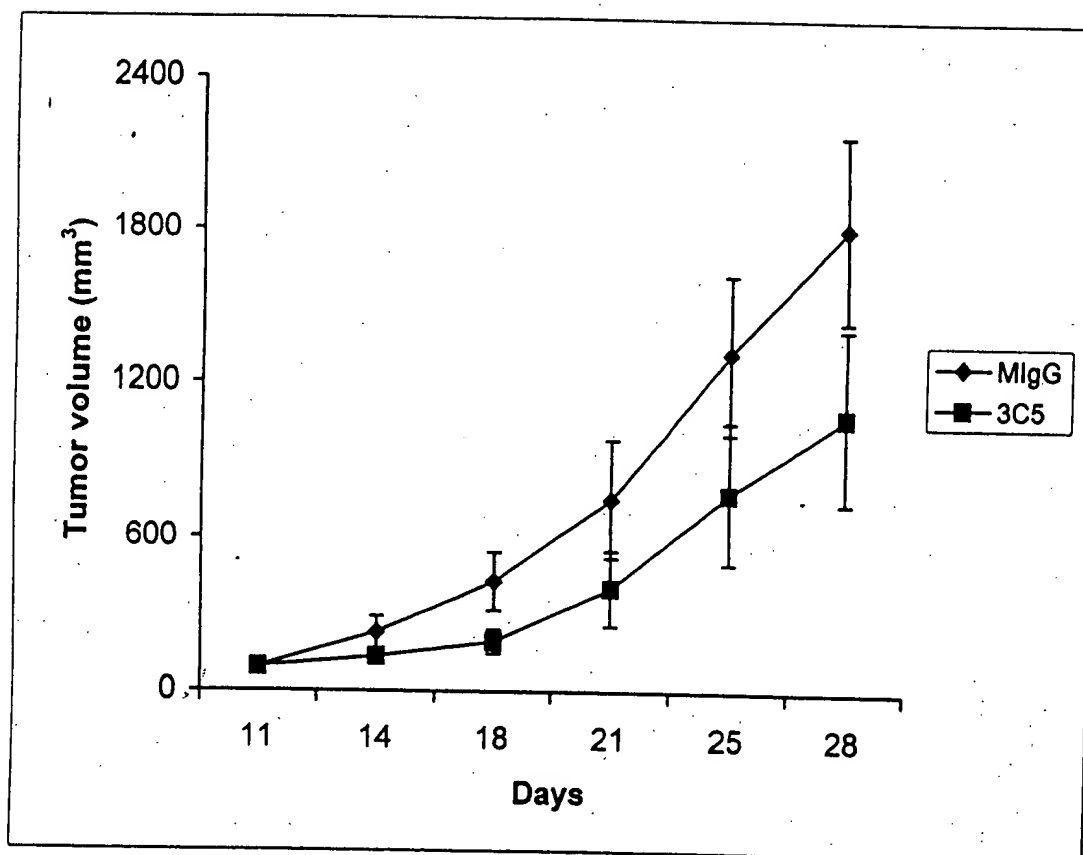




FIG. 58

TGCTTCTTCCTGATGGCAGTGGTTATAGGAGTCAATTCAGAGGTTGAGCTGCAGCAGTCT 60  
C F F L M A V V I G V N S E V Q L Q Q S 20

GGGGCAGAACTTGTGAGGTCAGGGGCCTCAGTCAAGTTGTCCTGCACAGCTTCTGGCTTC 120  
G A E L V R S G A S V K L S C T A S G F 40

————— CDR1 —————  
AACATTAAAGACTACTATATACACTGGGTGAATCAGAGGCCTGACCAGGGCCTGGAGTGG 180  
N I K D Y Y I H W V N Q R P D Q G L E W 60

————— CDR2 —————  
ATTGGATGGATTGATCCTGAGAATGGTGACACTGAATTTGTCCCGAAGTTCCAGGGCAAG 240  
I G W I D P E N G D T E F V P K F O G K 80

GCCACTATGACTGCAGACATTTTCTCCAACACAGCCTACCTGCACCTCAGCAGCCTGACA 300  
A T M T A D I F S N T A Y L H L S S L T 100

————— CDR3 —————  
TCTGAAGACACTGCCGTCTATTACTGTAAAACGGGGGGTTTCTGGGGCCAAGGGACTCTG 360  
S E D T A V Y Y C K T G G F W G Q G T L 120

GTCACTGTCTCTGCAGCCAAAACGACACCCCCATCTGTCTATCCACTG  
V T V S A A K T T P P S V Y P L

*[Faint, illegible handwritten notes]*

CTGGCC  
L A

CCCCATCTGTCTATCCACTGGCCCCTTGTTGA  
P P S V Y P L A P C V

# FIG. 61

## CDR1 Comparisons

1G8	1gG <sub>1k</sub>	Middle	G	F	N	I	K	D	Y	Y	I	H
2H9	1gG <sub>1k</sub>	N-Term.	G	F	T	F	S	N	Y	W	M	T
4A10	1gG <sub>2ak</sub>	N-Term.	G	Y	T	F	S	S	Y	W	M	H

## CDR2 Comparisons

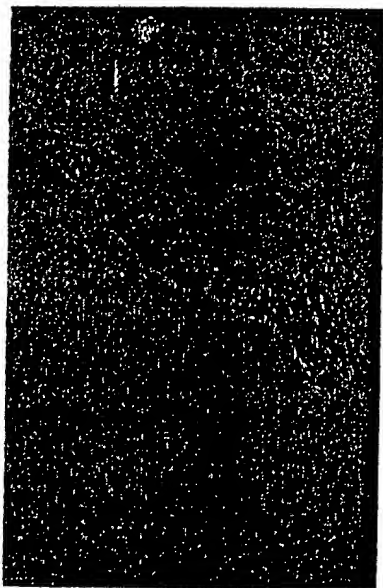
1G8	1gG <sub>1k</sub>	W	I	D	P	E	N	G	D	T	E	F	V	P	K	F	Q	G		
2H9	1gG <sub>1k</sub>	E	I	R	L	R	S	E	N	Y	A	T	H	Y	A	E	S	V	K	G
4A10	1gG <sub>2ak</sub>	N	I	D	P	G	S	G	Y	T	N	Y	A	E	N	L	K	T		

## CDR3 Comparisons

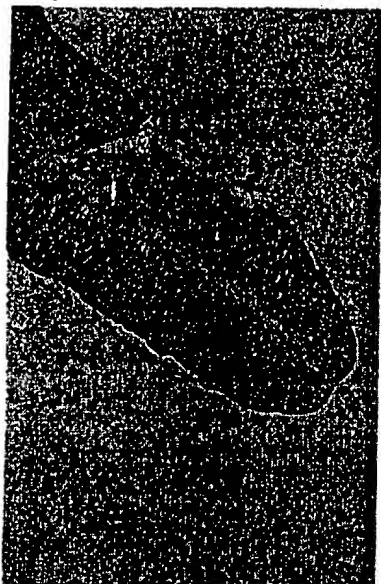
1G8	1gG <sub>1k</sub>	G	G	F								
2H9	1gG <sub>1k</sub>	L	G	R	P	N						
4A10	1gG <sub>2ak</sub>	R	S	T	M	I	T	T	G	F	A	Y

FIG. 62

A



B



C



D

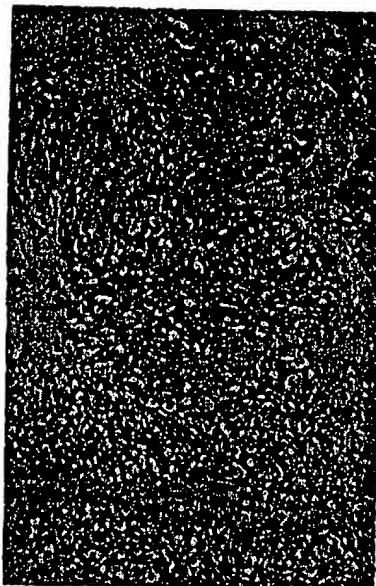
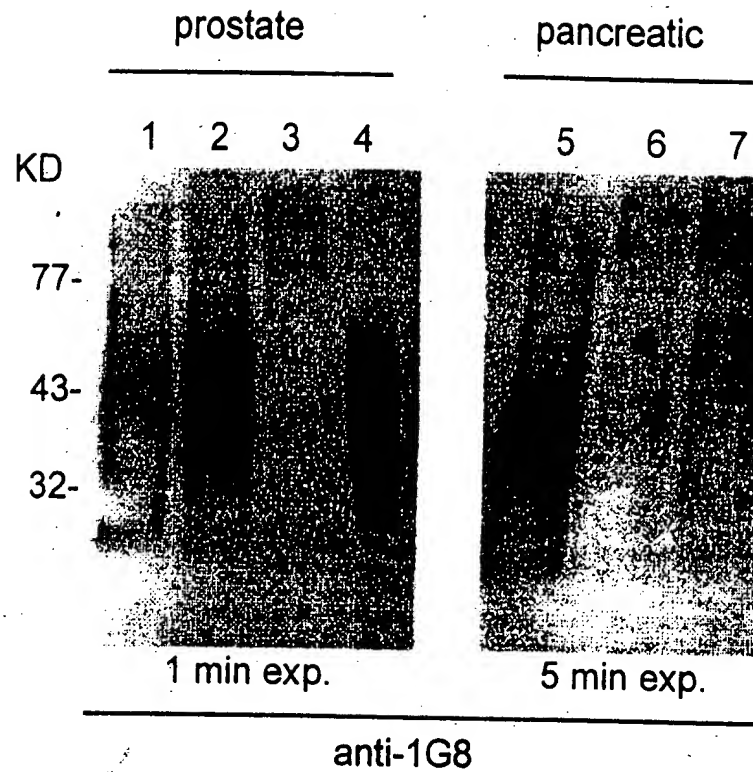




FIG. 64



1. LAPC-4 AD
2. LAPC-9 AI
3. LNCaP
4. LNCaP-PSCA

5. HPAC
6. Capan-1
7. ASPC-1

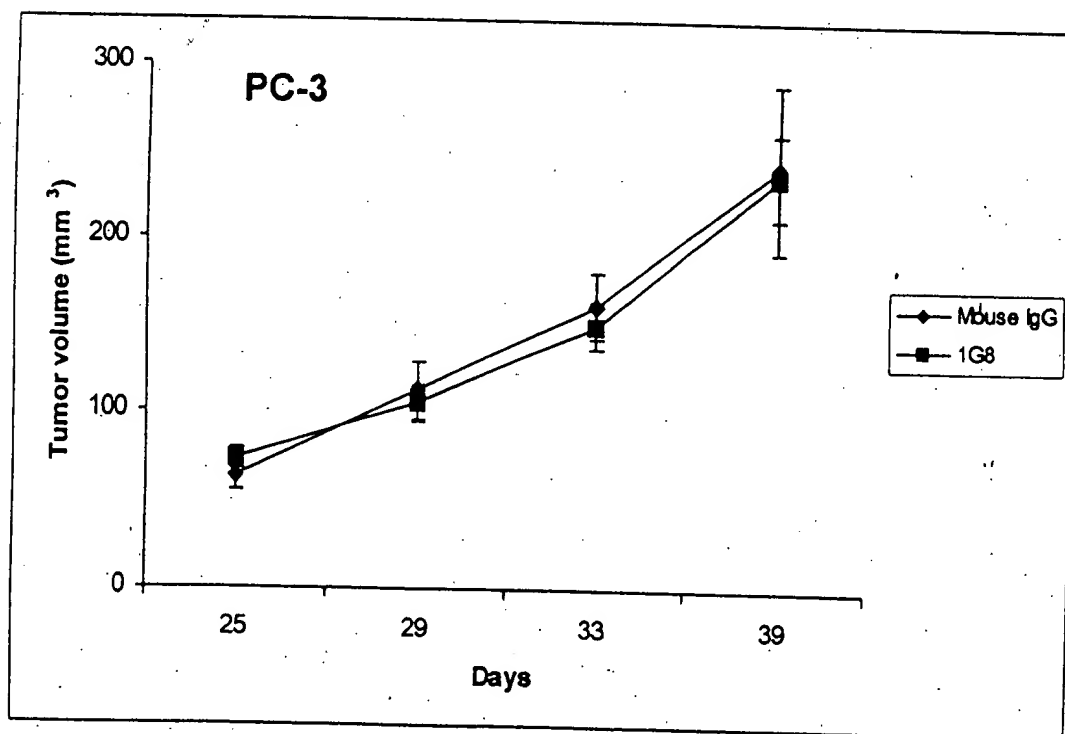
**LAPC-9**

Tumor volume (mm<sup>3</sup>)

Days

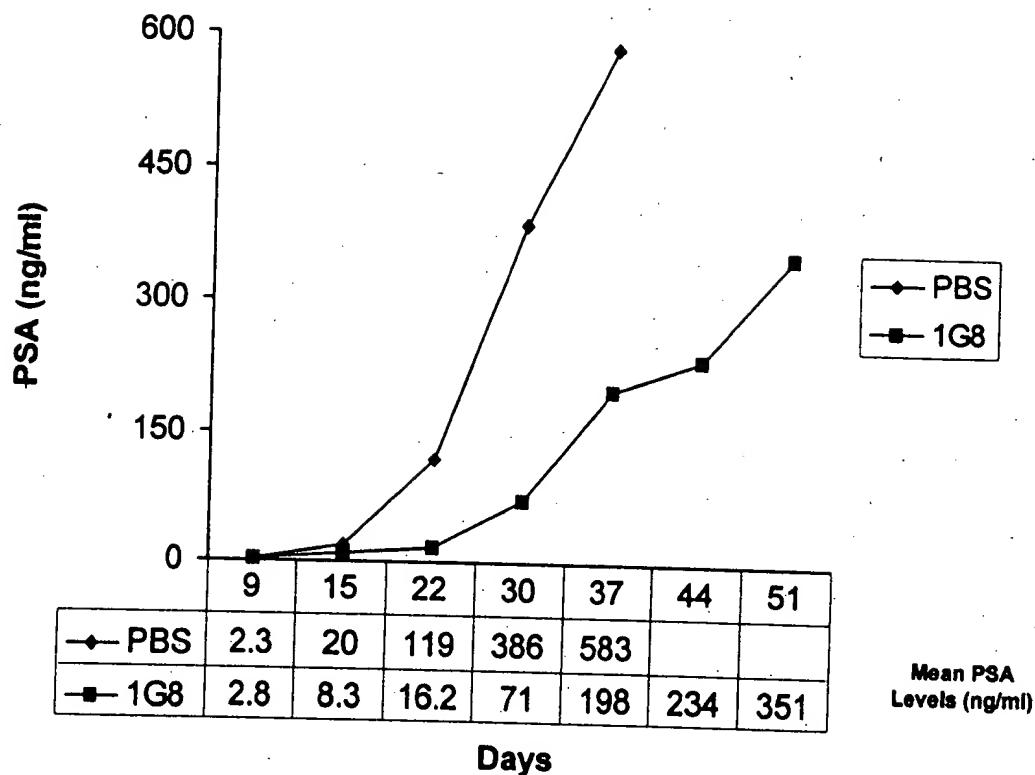
Legend: Mouse IgG (diamonds), 1G8 (squares)

Days	Mouse IgG (mm <sup>3</sup> )	1G8 (mm <sup>3</sup> )
19	~100	~20
22	~150	~50
26	~280	~100
29	~320	~120
34	~420	~180
39	~720	~280
42	~800	~300





A)



B)

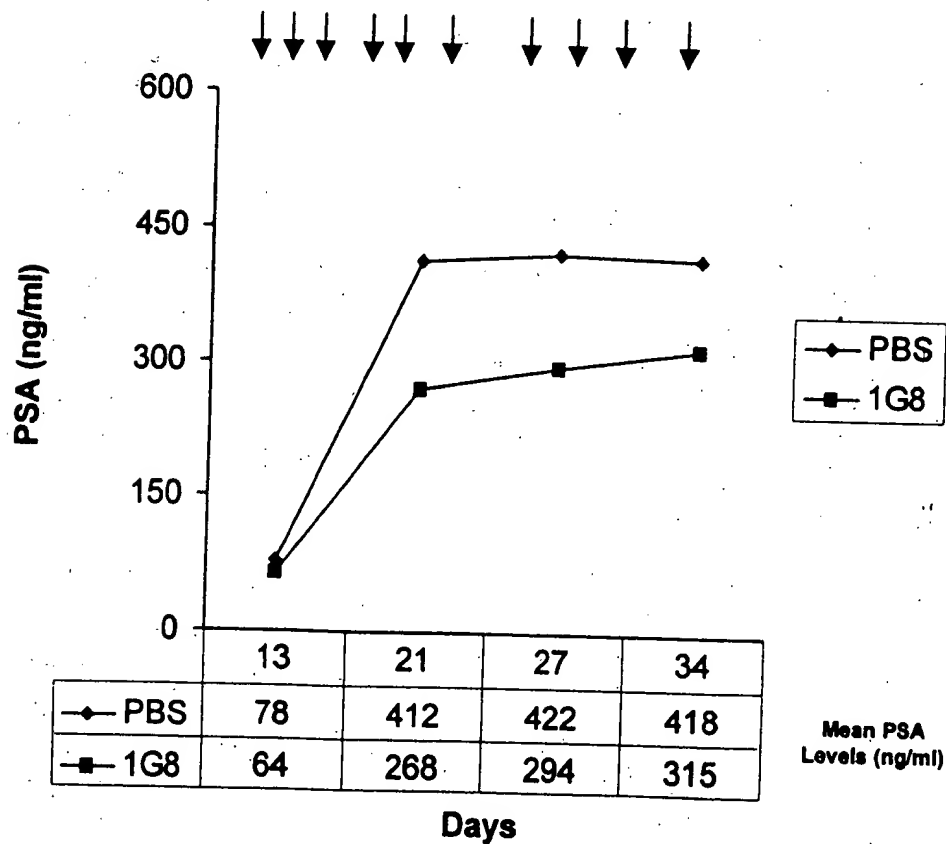
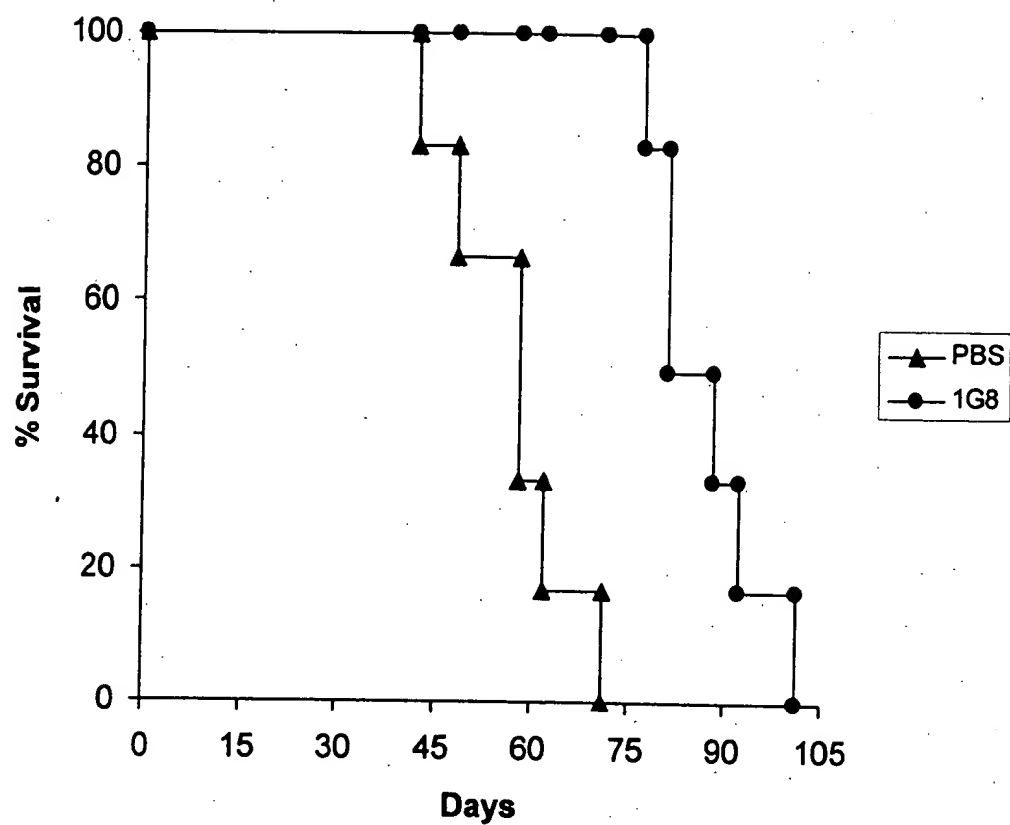


Figure 66

130342468

A)



B)

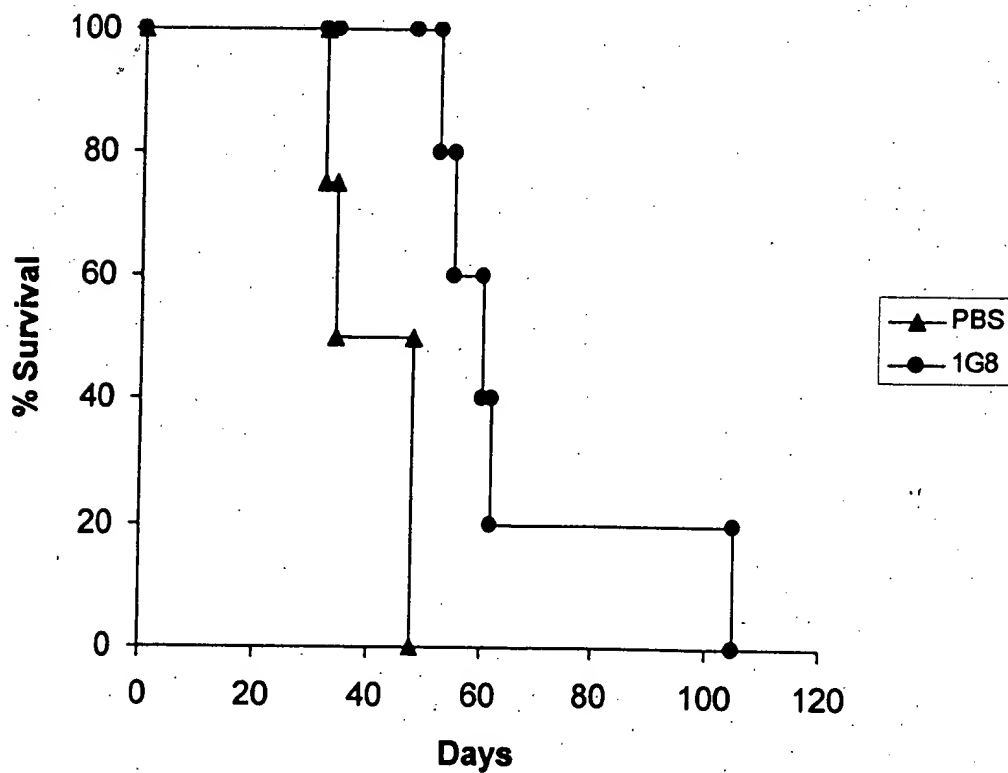
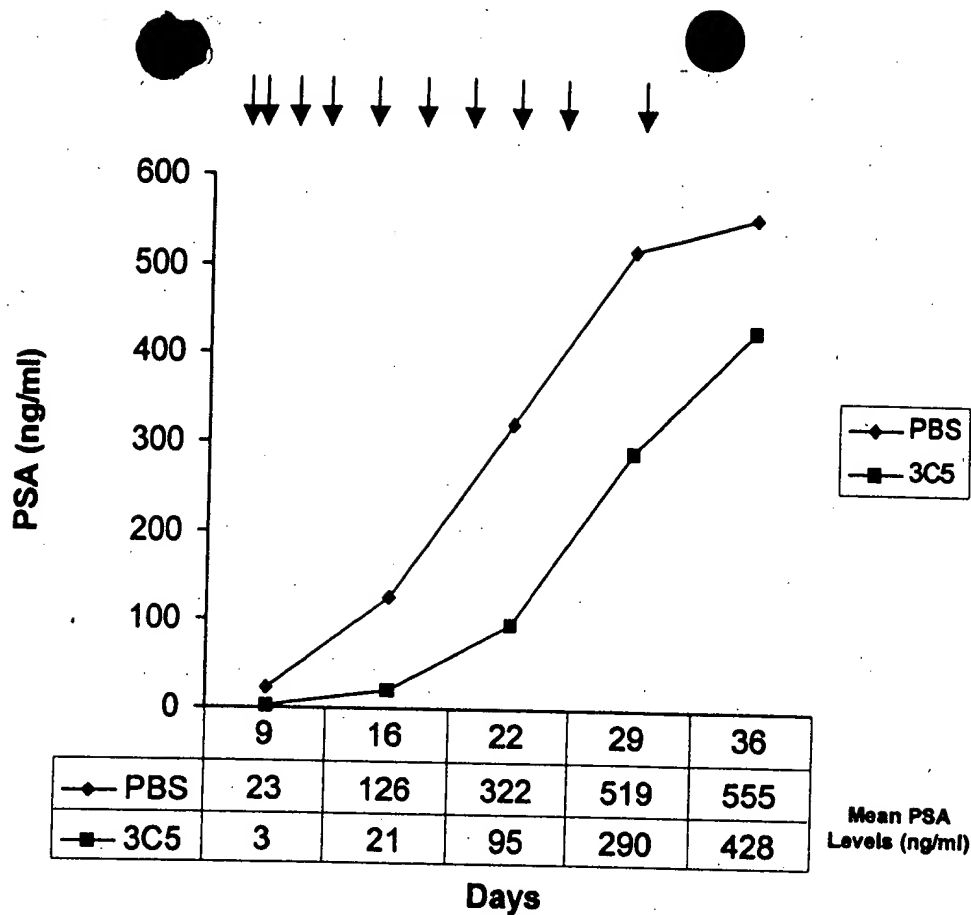


Figure 67

A)



B)

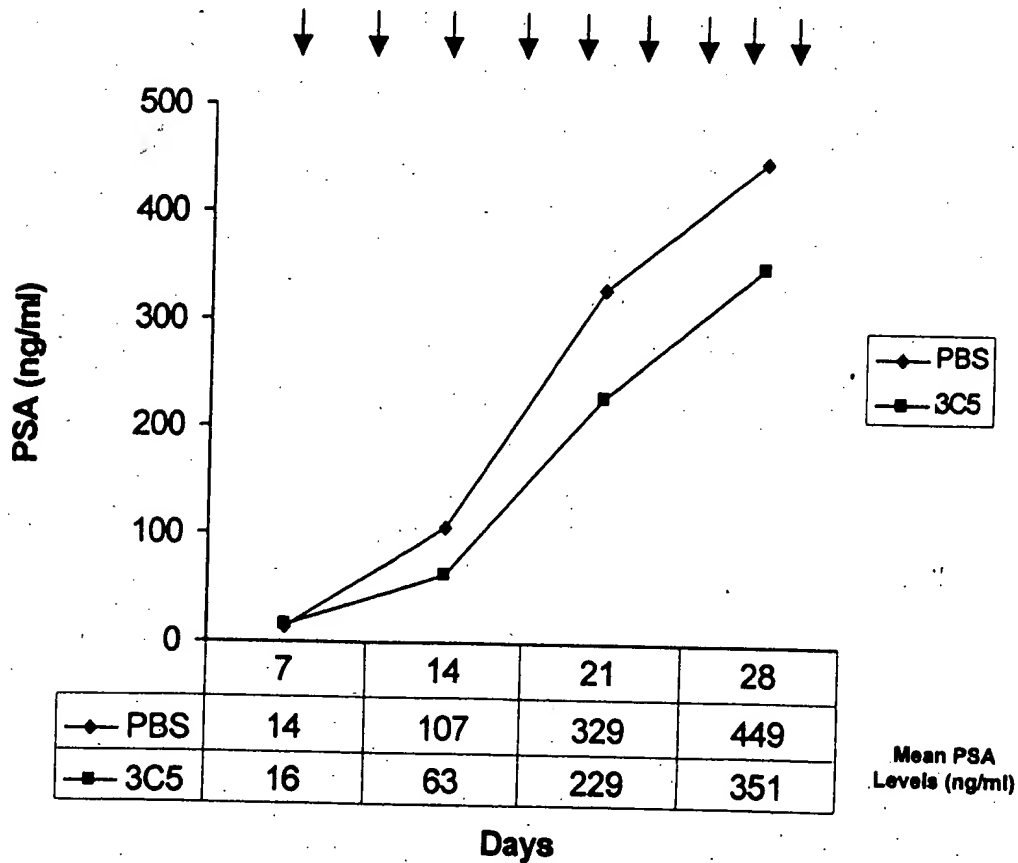
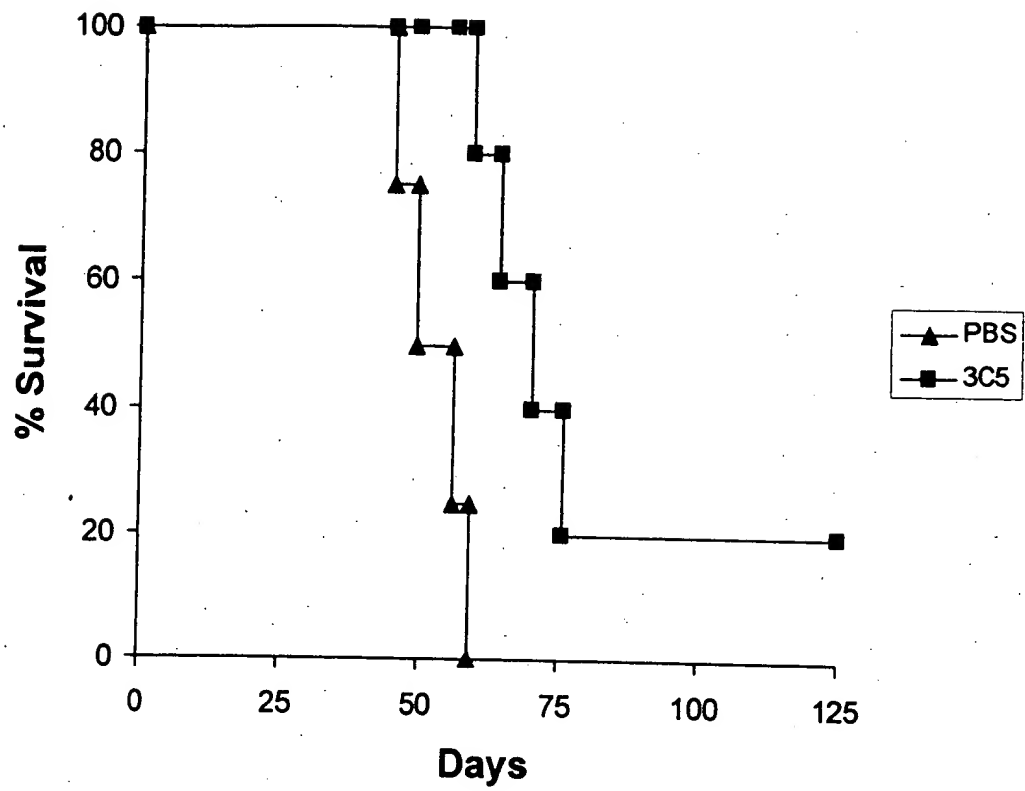


Figure 68

A)



B)

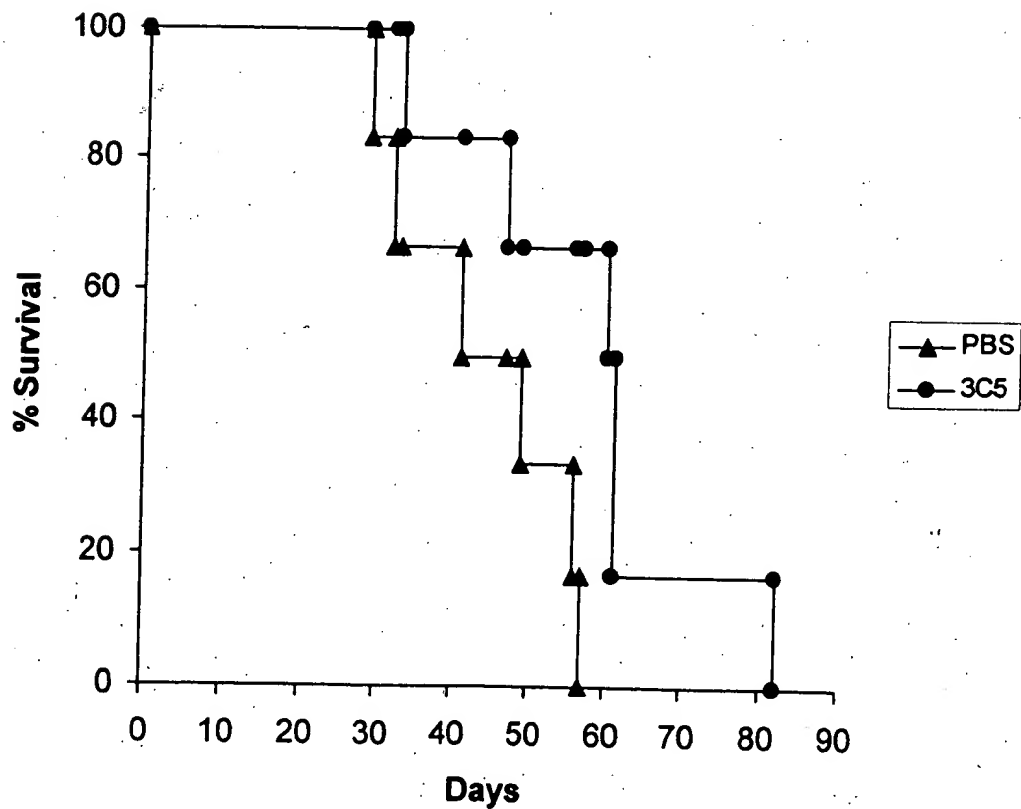


Figure 69

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

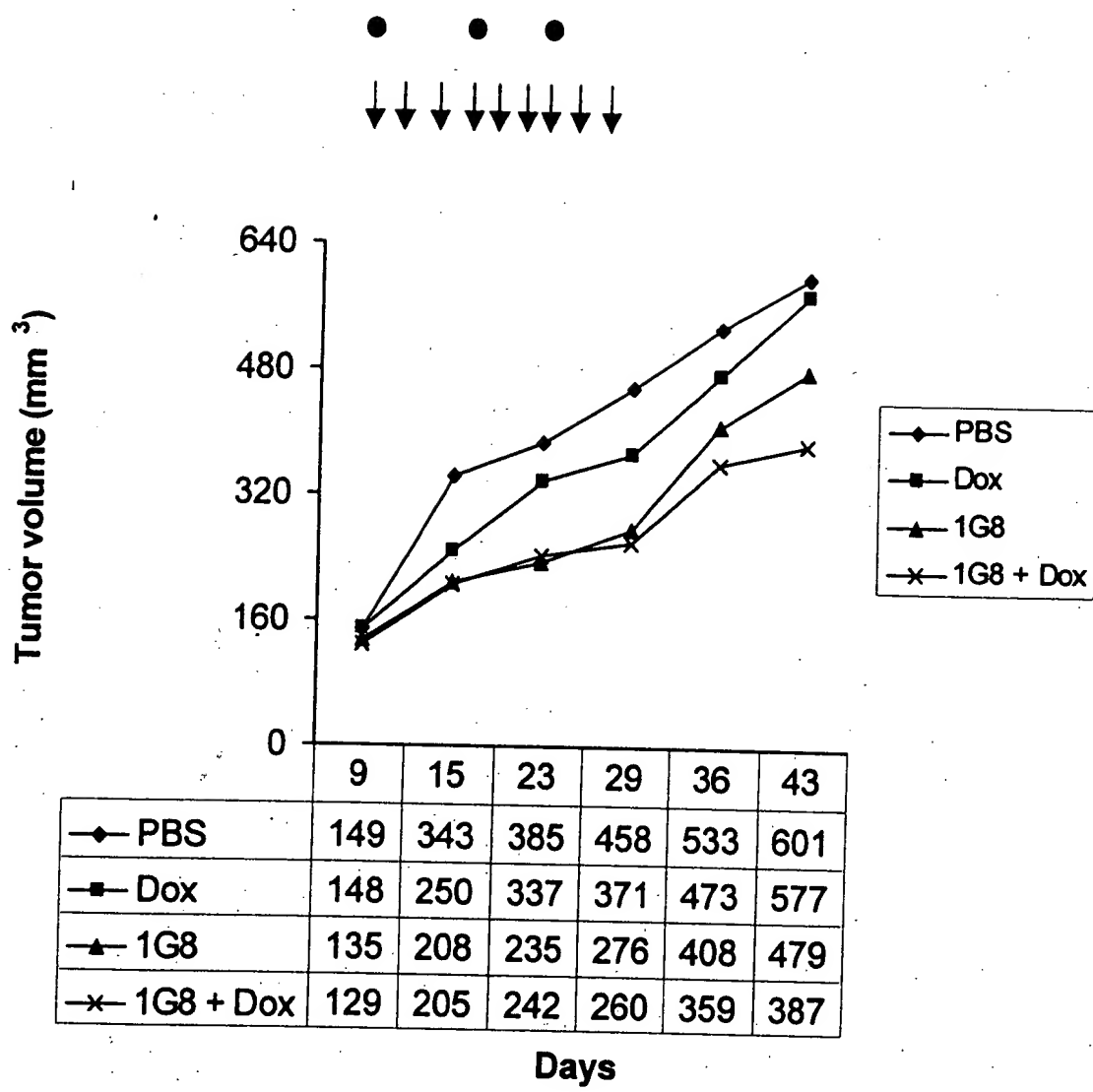
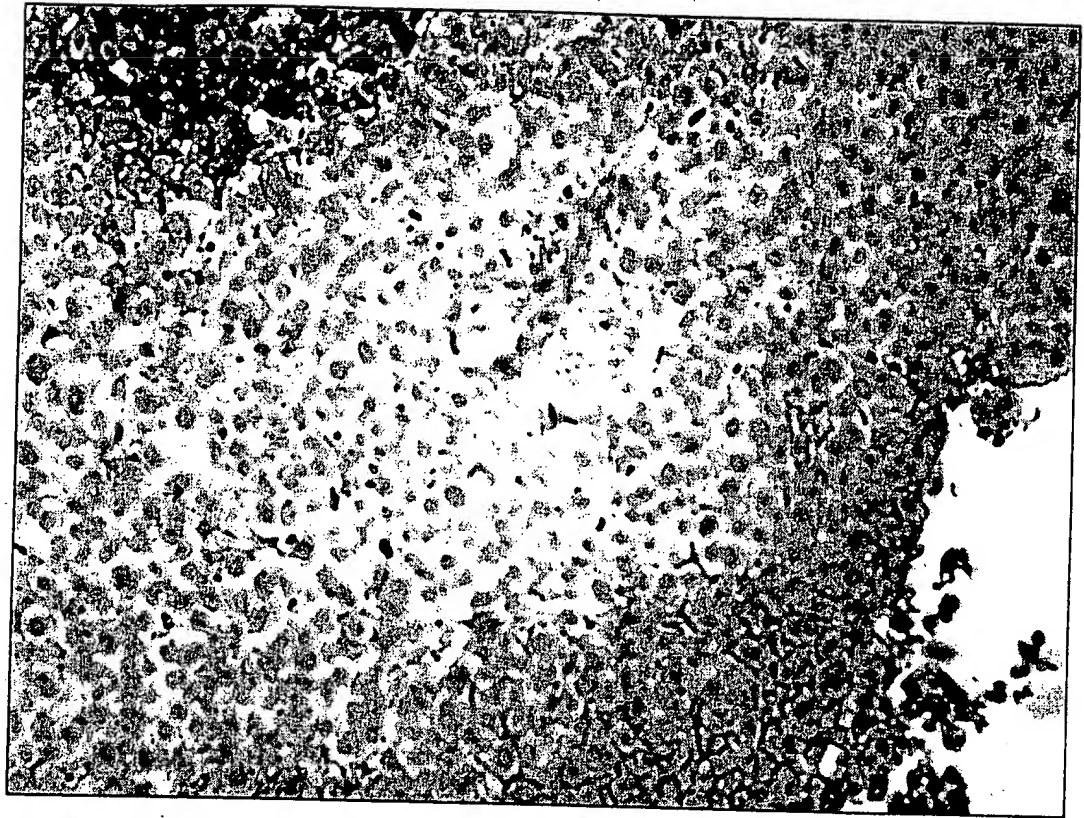


Figure 70

# PSCA 3C5 MAb Localizes within LAPC9AD Xenograft Tissue

3C5 Treated



mIgG Treated

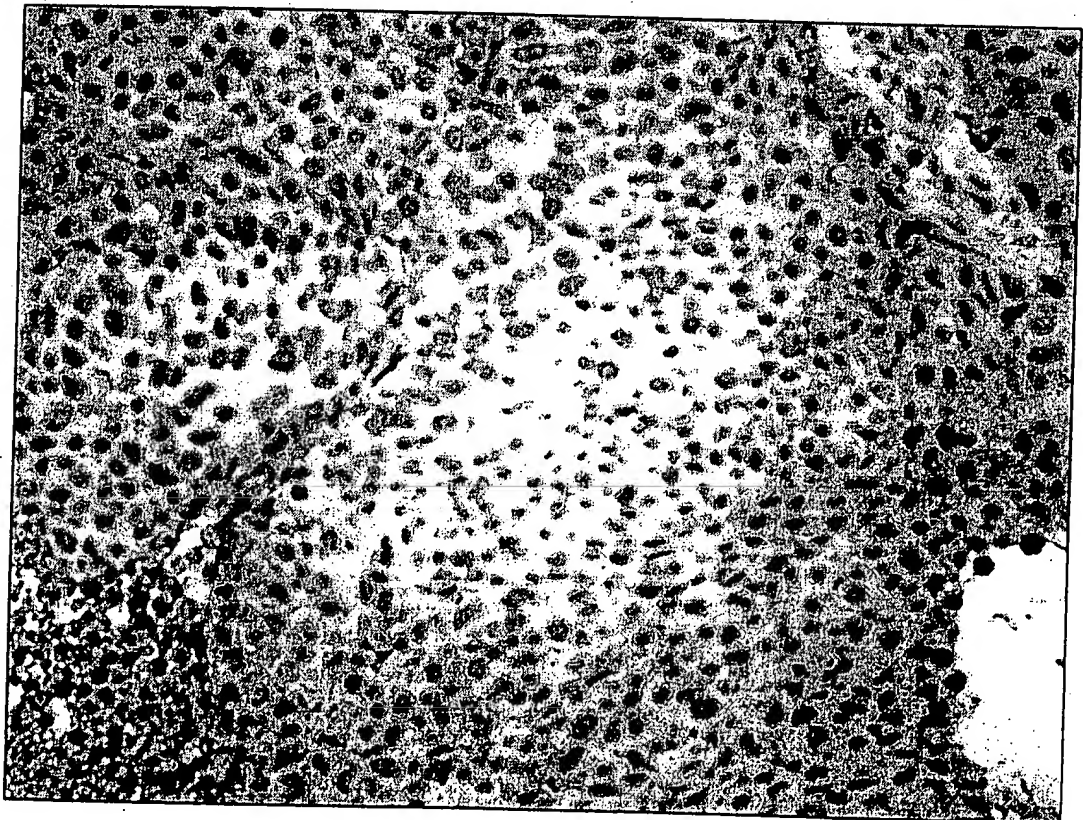
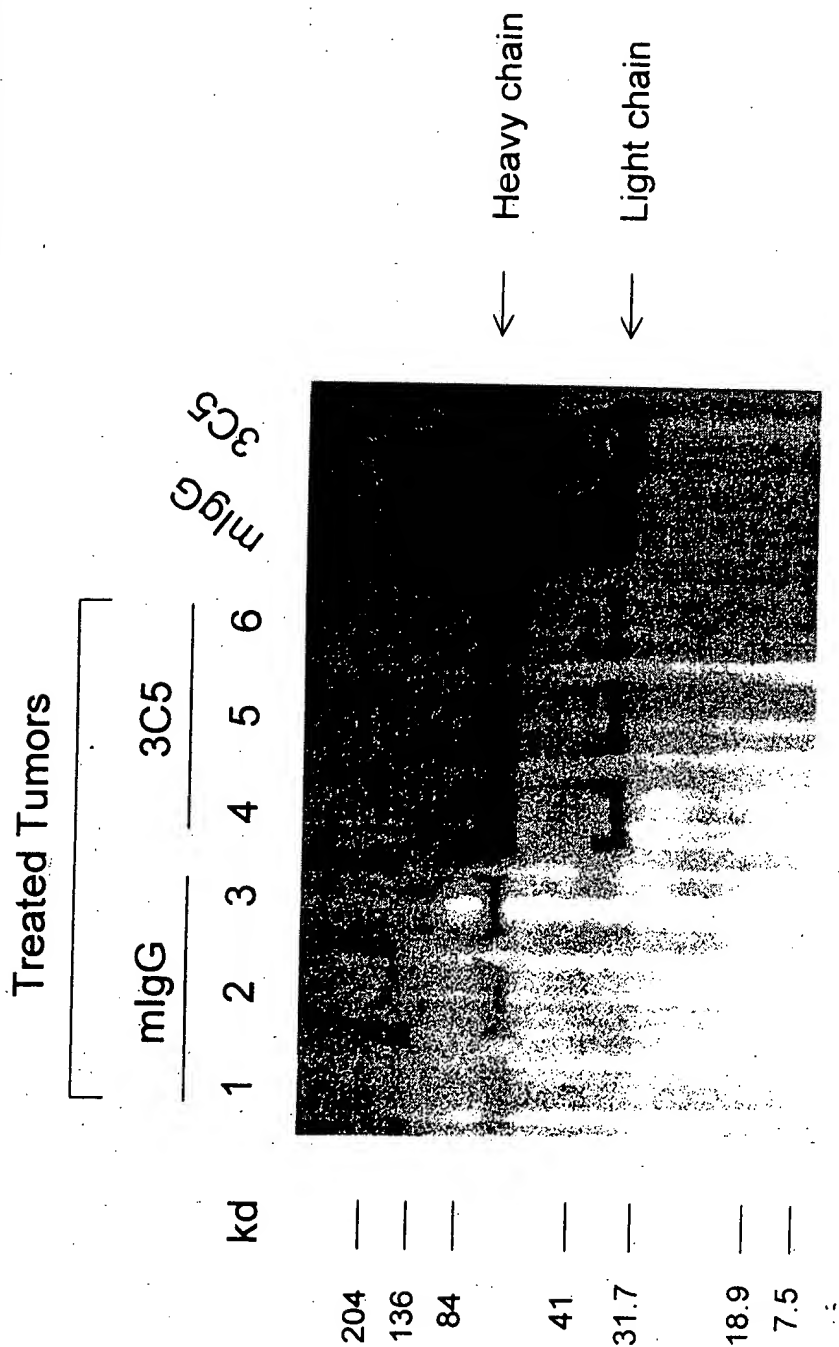


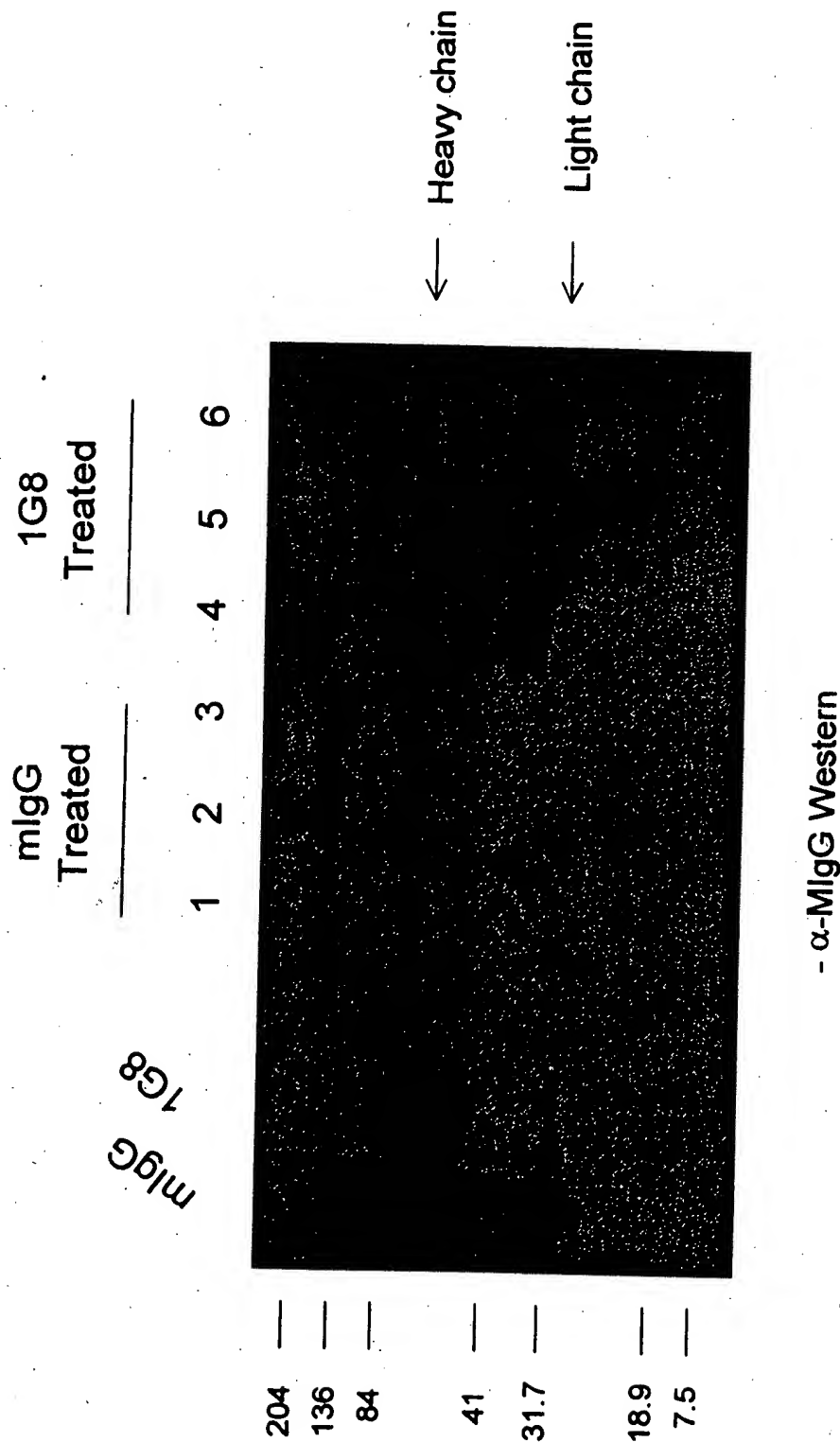
Figure 71

# 3C5 Anti-PSCA MAb is Localized to Established LAPC-9 Tumors



Western blot developed with  $\alpha$ -mlgG/k

# SPECIFIC TARGETING OF THE 1G8 ANTI-PSCA MAb TO ESTABLISHED LAPC-9 TUMORS



**Method:** Mice bearing established LAPC-9 tumors (>100 mm<sup>3</sup>) were injected with either mIgG or the anti-PSCA MAb 1G8. Tumors were harvested a week later and made into protein lysates for Western analysis.